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EXPERIENCE OF MICROAGGRESSIONS: WHITE BYSTANDERS'

PHYSIOLOGICAL AND PSYCHOLOGICAL REACTIONS

by

Alexandra K. Reveles

A dissertation submitted in partial fulfillment
of the requirements for the degree

of

DOCTOR OF PHILOSOPHY

in

Psychology

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2019

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ABSTRACT

Experience of Microaggressions: White Bystanders' Physiological and Psychological
Reactions

by

Alexandra K. Reveles, Doctor of Philosophy

Utah State University, 2019

Major Professor: Melanie M. Domenech Rodríguez, Ph.D.
Department: Psychology

Microaggressions, and other forms of discrimination, negatively impact recipients cognitively, emotionally, physically, and behaviorally however, there is little information about the impacts to bystanders of microaggressions who are exposed to them, but not the primary target. The purpose of the current study was to examine the impact of witnessing a discriminatory event in European American college students studying at a predominantly white institution (PWI).

The study employed an experimental paradigm that measured both physiological and psychological distress in response to a discriminatory event. Participants experienced decreases in their heart rate from T1 to T2 during phase one of data collection in the microaggression ($p = .04$; $d = .43$) and phase two in the blatant racism ($p = .006$; $d = .46$) conditions. Blood pressure also decreased from T1 to T2 for those who participated during phase one of data collection for systolic ($p < .001$, $d = .57$) and diastolic ($p = .058$, $d = .60$) blood pressure. Participants in phase two of data collection experienced a

decrease in academic achievement scores in the microaggression ($p = .044$, $d = .21$) and blatant racism ($p = .042$, $d = .21$) conditions. Overall, participants experienced a decrease in positive affect from T1 to T2 ($p < .001$, $d = .33$), but only participants in the blatant racism condition experienced an increase in negative affect from T1 to T2 when compared with the microaggression ($p = .015$, $d = .59$) and control ($p = .003$, $d = .78$) conditions. No differences were shown in academic achievement from T1 to T2 for participants in the microaggression condition; no differences in academic achievement scores emerged between the experimental conditions. No main effects or interaction effects emerged in tests of direct and interacting effects of biological and affective markers of distress on academic achievement. These results demonstrate the negative impact of witnessing discriminatory events to White bystanders and may help inform diversity related policies and initiatives at colleges and universities aimed at decreasing discrimination on campus.

(101 pages)

PUBLIC ABSTRACT

Experience of Microaggressions: White Bystanders'

Physiological and Psychological Reactions

Alexandra K. Reveles

The negative impacts of discriminatory events to the physiological and psychological stress of the recipient has been thoroughly documented. However, there is little to no evidence about the impacts to bystanders of these events, particularly White bystanders. Psychological impacts may emerge through academic achievement, which has implications for educational institutions and their diversity initiatives. This study examined the impact of witnessing discriminatory events on academic achievement, biological markers of distress, and emotional distress.

Academic achievement was negatively impacted for participants in the microaggression and blatant racism conditions when compared to a control condition. Study participants also experienced negative emotional impacts. These were evident through a decrease of positive emotion and an increase of negative emotion throughout the study. Counter to the stated hypothesis, biological markers of distress did not demonstrate a negative impact from the discriminatory event. Microaggressions, specifically, were not found to have negative impacts on academic achievement. There were also no differences in the relationship between biological markers of distress and academic achievement among the three conditions. These findings suggest that discriminatory behavior negatively impacts White bystanders emotional state and academic achievement.

DEDICATION

This dissertation is dedicated to all the future women of color pursuing their doctoral dreams and especially to Jerusha Shi Yuan Sanjeevi who never got to finish her dream, but whose spirit helped guide me in finishing mine.

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I would like to thank Dr. Melanie M. Domenech Rodríguez for her enthusiastic and steady support of this research project. I am forever grateful for the countless conversations, tissues, abrazos, meals, cafecitos, smiles, and shared silences that helped me realize exactly what I am capable of. Your example of mentorship will not be forgotten and I will do my best to carry it on.

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Alexandra K. Reveles

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CHAPTER I

INTRODUCTION

Racial/ethnic microaggressions are a form of covert discrimination and can be detrimental to psychological and physical health of people experiencing them. Pierce, Carew, and Pierce-Gonzalez (1977) first wrote about racial/ethnic microaggressions in a study examining negative representation of minority groups in television commercials. Pierce et al., defined microaggressions as “subtle, stunning, often automatic, and nonverbal exchanges which are ‘put downs’ of [ethnic minorities] by offenders.” (p. 65). In recent years microaggressions have been reexamined and given an updated definition as “brief and commonplace daily verbal, behavioral, and environmental indignities, whether intentional or unintentional, that communicate hostile, derogatory, or negative racial slights and insults to the target person or group” (Sue et al., 2007, p. 273).

Research has shown microaggressions and other types of discrimination to negatively impact victims in numerous ways including cognitive, emotional, and behavioral impacts. While most discrimination research focuses on the impacts of discrimination to victims there are studies that show similar negative impacts to bystanders witnessing discriminatory events or interactions. Schmader et al. (2012) investigated the emotional reactions of Whites who witnessed prejudice and found that Whites showed a strong negative emotional response after hearing an antidiversity conversation. Paul Kivel (2002) coined the term *costs of racism to Whites*, which include economic, psychosocial, and cultural costs to describe the negative impact of discrimination and prejudice to non-victims. While these costs are not comparable to the costs people of color face as a result of prejudice and discrimination, the

acknowledgement that Whites are affected by prejudice and discrimination not directly aimed at them has important implications for prejudice-reduction interventions. Few studies have examined the potentially detrimental impact that discrimination has on bystanders witnessing an interaction and it is even more limited when looking at subtle situations in which microaggressions occur.

In order to examine if and/or how microaggressions impact White bystanders the Microaggression Process Model (Sue, 2010) is used as a theoretical foundation of this work. This theory suggests that when a person experiences a microaggressive event they go through five different phases beginning with the initial incident and ending with the consequences of the incident. This model will be supplemented by the Schachter-Singer Theory of Emotion, which states that when a person becomes physiologically aroused in a situation, they label the arousal, interpret, and identify it in contextual terms (Schachter, 1964). Based on previous research it appears that when faced with a discriminatory situation people become physiologically aroused and then label that arousal with an emotional interpretation of the situation (Barksdale, Farrug, & Harkness, 2009; Pascoe & Smart Richman, 2009).

The purpose of this study was to examine the ways racial microaggression experiences impacted the psychological and physiological reactions of White bystanders. To build on previous research, this study aimed to examine the extent to which microaggressions were detrimental to White bystanders in cognitive (attention, concentration), affective (physiological, self-report), and behavioral (achievement) domains. The specific research questions were: (a) Do microaggressions impact cognitive, affective, and biological markers of distress of a White bystander as compared

to a no-microaggressions control group? (b) What impact does witnessing a microaggression have on the academic performance of a White bystander? and (c) Does experimental condition moderate the relationship between biological markers of distress and academic achievement?

CHAPTER II

REVIEW OF THE LITERATURE

This section will provide an elaboration on the theoretical foundation for the present research, followed by a report of relevant findings in prejudice and discrimination research, and relevant findings in the literature on the impact of prejudice and discrimination to White Americans.

Microaggressions

Sue et al. (2007) defined racial microaggressions as the “brief and commonplace daily verbal, behavioral, and environmental indignities, whether intentional or unintentional, that communicate hostile, derogatory, or negative racial slights and insults to the target person or group” (p. 273). Sue et al. (2007) identified three different forms of microaggressions: *microassaults*, *microinsults*, and *microinvalidations*. Microassaults are defined as “an explicit racial derogation characterized primarily by a verbal or nonverbal attack meant to hurt the intended victim through name-calling, avoidant behavior, or purposeful discriminatory actions” (Sue et al., 2007, p. 274). Microassaults are often equated to *old-fashioned racism* and include such acts as calling someone a racial slur or wearing symbols like a swastika or confederate flag. Microinsults are described as “communications that convey rudeness and insensitivity and demean a person’s racial heritage or identity” (Sue et al., 2007, p. 274). A microinsult is displayed, for example, when a student of color’s college admittance is assumed to be the result of her status as a student athlete rather than based on merit. Microinvalidations are defined as “communications that exclude, negate, or nullify the psychological thoughts, feelings, or experiential reality of a person of color” (Sue et al., 2007, p. 274). An example of a

microinvalidation is a person of color sharing a discriminatory experience with a White American friend only to have that friend question the experience and provide an alternative explanation for the perpetrator's behavior.

Sue (2010) outlined different themes of racial microaggressions that often emerge for ethnic minority groups. These themes are extracted from Sue's taxonomy and include among other themes: ascription of intelligence, color blindness, second-class citizenship, myth of meritocracy, assumption of criminality, and denial of individual racism (Sue et al., 2007). Themes may arise more or less frequently according to setting. For example, research on college campuses has found that themes of ascriptions of intelligence, assumption of criminality, and second-class citizenship often emerge for students of color (Torres, Driscoll, & Burrow, 2010; Yosso, Smith, Ceja, & Solorzano, 2009). One of the more commonly seen is ascription of intelligence, defined as the assignment of intelligence to a person of color on the basis of their race (Sue et al., 2007). This is illustrated by someone telling a Black college student that they are articulate when they speak, which leads the victim to believe that it is unusual for another person of the same race to be intelligent (Sue et al., 2007).

Microaggression Process Model

Sue (2010) outlined a model that explains the impact of microaggressions on persons that experience them. The Microaggression Process Model was born of the observations gathered through empirical investigations and outlines five domains, or phases, that are likely to occur when a potential microaggression occurs (Sue, 2010). These phases are posited to occur in a set sequence, specifically, incident, perception, reaction, interpretation, and consequence.

Incident. The first phase of incident is the phase in which a microaggressive event or situation is experienced by someone (Sue, 2010). These incidents can be interpersonal interactions between perpetrators and recipients, more passive situations such as overhearing comments, or by environmental cues that show a devaluation of group identities. Incidents can be verbal, nonverbal/behavioral, or environmental in nature (Sue, 2010). Verbal incidents are defined as “direct or indirect comments to targets” and nonverbal/behavioral incidents are defined as “experiences that include the use of body language or more direct physical actions” (Sue, 2010, p. 71). An example of a nonverbal/behavioral incident is a Black man walking down the street and passing a White woman who immediately clutches her purse upon seeing him. Environmental incidents may also be defined as physical surroundings representing the microaggressive event (Sue, 2010, p. 71). An example of an environmental incident is a wall of pictures of research scholars that doesn’t show any scholars of color.

Perception. The second phase of the model is perception. In this phase, a person tries to determine whether an incident was racially motivated or not; the questioning that takes place can be internal or external (Sue, 2010). Questioning refers to those participants who question whether or not the incident they experienced was racially motivated (Sue, 2010). Sue (2010) described this phase as energy depleting because not only is the recipient trying to determine if the incident they experienced was racially motivated, but different factors of the incident are taken into account. These factors include the relationship to the perpetrator, the theme of the microaggression, the racial or cultural development of the recipient, and personal experiences of the target (Sue, 2010). Situations, such as when a Latinx student is told that their response to a question was

“very articulate” by a White American professor, can be complicated as the comment appears to be a compliment but it is potentially so only because the performance counters a negative stereotype.

Reaction. The third phase of the Microaggression Process Model is reaction, defined as the participant’s immediate response to the incident (Sue, 2010). This reaction phase evokes cognitive, behavioral, and emotional responses in recipients. Some common reactions that have been identified are *healthy paranoia*, *sanity check*, empowering and validating self, and rescuing offenders (Sue, 2010). Healthy paranoia, also known as *cultural mistrust*, refers to the developed suspicion of the motives and behaviors of the members of the dominant culture (Sue, 2010). Healthy paranoia requires the recipient of a microaggression to give equal or more weight to viewing incidents from past experiences of discrimination and prejudice, and not just by what the offending person says (Sue, 2010); they view their present experiences through a lens colored by past experiences. Healthy paranoia serves several beneficial functions: warns against simply accepting offender definitions of whether a microaggression was delivered, allows targets to use lived experiences as a counterbalance in determining racial realities, it reduces energy depletion by ending constant internal questioning and rumination, and it may lead to functional and adaptive mechanisms to deal with microaggressions that are delivered (Sue, 2010).

The sanity check is used by people of color as a way to confirm the accuracy of their perceptions when perpetrators may deny hidden messages of microaggression and minimize or invalidate the experiential realities of the target (Sue, 2010). One way a person may engage in the sanity check is discussing the event with other people of color

to either help confirm or deny what they perceived they experienced. The sanity check serves to reaffirm a person's experiential reality, communicates that the target is not alone because others have experienced similar incidents, and it creates a validating group experience that helps to guard targets against future microaggressions (Sue, 2010).

Empowering and validating the self occur when recipients of a microaggression shift the blame and fault of the incident to the aggressor rather than to themselves as the recipient (Sue, 2010). Alternatively, in rescuing offenders some recipients of a microaggression feel the need to excuse others for their actions or to take care of them in a way. Those who engage in this type of reaction have a tendency to consider aggressors feelings in the situation before their own (Sue, 2010). For example, a Black man walking down the street at night may excuse an aggressor who clutched their purse and crossed the street in response to seeing them by saying, "It was late and I was dressed poorly because I had to run to the store. If I had been in a suit they wouldn't have been scared of me."

Interpretation. The fourth phase in this model is interpretation in which the participant translates the content of the specific microaggression into a more general theme (Sue, 2010). Some themes discussed by Sue (2010) are "you do not belong", "you are abnormal", "you are intellectually inferior", "you are not trustworthy", and "you are all the same" (Sue, 2010). The "you do not belong" message conveys to targets that they are undesirables who do not belong in a particular environment, neighborhood, school, worksite, store, or society in general (Sue, 2010). The "you are abnormal" message leads targets to believe they are abnormal due to deviating from the majority ideal of normality based on things such as sexual orientation, cultural approaches to different tasks,

appearance, and dress (Sue, 2010). “You are intellectually inferior” is a message that is conveyed through the attribution of intellectual inferiorities and deficits being correlated with skin color and gender (Sue, 2010). A woman whose position within a science or mathematics field is questioned (e.g., a professor is asked to bring coffee assuming she is an administrative assistant) could interpret the microaggression to mean that women are intellectually inferior to men.

An additional message that is often received is “you are not trustworthy.” When people of color are followed by employees in stores or continually being questioned about their motives in different settings they may interpret these actions as signaling that they are not trustworthy. The last message that is often seen by targets is the message of “you are all the same”. This message assumes that individual differences do not exist and that experiences of ethnic minorities (e.g., Asian Americans) are universal (Sue, 2010). A common request to people from marginalized groups is to speak for all the members of that group (e.g., “what is the Black perspective on spanking?”); such a request is simply absurd because no two people have had the exact same experiences as each other even if they do share a racial or ethnic identity (Sue, 2010).

Consequences and impact. The last phase of the Microaggressions Process Model is the consequences and impact phase, which consists of the behavioral, emotional, or thought processes that develop over time due to a microaggressive incident (Sue, 2010); this phase attempts to specifically describe the psychological impacts microaggressions have on the recipient. Sue details four consequences that stand out, which are: powerlessness, invisibility, forced compliance/loss of integrity, and pressure to represent one’s group (Sue, 2010). Powerlessness is defined as the result of an inability

to control the definition of reality and the catch-22 dilemma that is evoked when attempts are made (Sue, 2010). The response of the target after a microaggression has occurred often leads the perpetrator or others to label the target's feelings as hypersensitive or angry, which leads the target to believe that they have little effect or control over a situation which in turn leads to feelings of impotence (Sue, 2010). After this cycle repeats itself, the target's locus of control becomes externalized and leaves the victim feeling helpless to combat microaggressions (Sue, 2010).

Invisibility results when accomplishments and attributes of a person are overlooked or ignored because the person is objectified as something else (e.g., a Black college student being seen only as an athlete, but not a scholar) and that this action of certain things being ignored makes the person feel invisible (Sue, 2010). Forced compliance or loss of integrity occurs when a person is forced to think and behave in a way that is incompatible with their true beliefs and desires and in turn leads people to feel inauthentic and disingenuous (Sue, 2010). People who have to navigate two different worlds (e.g., the White world and their own world) often report feeling this way. A final consequence that is often reported is the pressure to represent one's group. People often feel that if they make mistakes, fail at something, or show any deficiency that all of these things will be attributed to the rest of their ethnic minority group (Sue, 2010).

Theory of Emotion

Microaggressions impact emotions, physiology, and the behavior of people who are being microaggressed upon. Wang, Leu, and Shoda (2011) examined externalizing emotion in people who believed they were being treated differently because of their race

and found that participants reported ratings of the intensity of negative emotions was related to the belief that they had been treated a certain way because of their race.

Schachter (1964) brought 185 participants (all but one of whom participated fully) into a lab under the guise of testing the effect vitamin supplements on vision; the vitamin supplements the participants were injected with were either epinephrine or a placebo. Participants were put into one of three conditions: *epinephrine informed* where they were told about actual side effects related to epinephrine that they might experience, *epinephrine ignorant* where they were not told about any side effects, and *epinephrine misinformed* where participants were told about side effects that were not related to epinephrine (Schachter, 1964). After receiving the injection participants were placed into a room with a decoy who, uninformed to the condition the participant was in, was instructed to act either euphorically or angrily (Schachter, 1964). A researcher through a one-way mirror then observed and recorded participants; participants also filled out questionnaires about their current physical and emotional states (Schachter, 1964). They found that participants in the epinephrine informed condition had lower emotionality than in the other two conditions and that even those in the placebo condition had higher emotionality than the epinephrine informed group (Schachter, 1964). Schachter explained that because the individuals in the epinephrine informed condition were given a reason for their physiological arousal they did not have to use their cognitions to interpret the situation they were in and determine why they were feeling the way they were. The participants in the other conditions did not have this information readily available so they attributed their physiological arousal in terms of the cognitions available to them and thus their emotionality was determined by those cognitions (Schachter, 1964). This study

demonstrated that in ambiguous situations individuals are more likely to attribute their emotional arousal in terms of their physiological arousal and through cognitions that are available to them.

Theoretical Foundation for the Present Study

The Microaggression Process Model focuses on the recipients of microaggressions, but because phase one includes recipients of microaggressions in a more passive role such as a witness or bystander it will provide the theoretical foundation needed for the current study looking at bystanders of microaggressions. Microaggressions also impact the emotions of people who are being microaggressed upon, which was discussed briefly in the Microaggression Process Model, but is a large enough focus of this study to warrant going into more depth about emotions. Therefore, Schachter-Singer Theory of Emotion was also used to help guide the current study. This theory of emotion posits that when physiological arousal occurs in a person they label the arousal, interpret it, and identify it in contextual terms of both the event they have experienced and the contextual factors of themselves as the experiencer (Schachter, 1964). Therefore, an emotional state is a function of physiological arousal and cognitions about the arousal.

Prejudice and Discrimination in the United States

People often think about prejudice and discrimination in terms of overt racism, which is sometimes also referred to as old-fashioned or blatant racism. The Taking Action Against Racism (TAAR) Media Group of Division 17 has defined overt racism as “intentional and/or obvious harmful attitudes or behaviors towards another minority individual or group because of the color of [their] skin” (Lee-Barber, Pinterits, Davis, & Gantt, n.d.). The most salient examples of overt racism are segregation, use of derogatory

terms when describing people and/or groups, and membership in groups that support the idea of White supremacy. Since the 1950s, endorsement of these kinds of old-fashioned ideas and beliefs has declined (Virtanen & Huddy, 1998).

In the modern day the behavior most likely to be seen is that of covert/modern racism or discrimination; covert racism encompasses modern and symbolic racism. Pearson, Gaertner, and Dovidio (2009) discussed that while overt prejudice has declined in the U.S., there is still evidence of discrimination in the well-documented health disparities, for example, differential infant mortality and access to basic services such as employment, housing, and education. Forms of subtle racism have been proposed to have significantly more negative influence on factors such as self-esteem, racial anger, and frustration than do traditional overt forms of racism (Sue et al., 2007). Modern racism has also been defined as incorporating conflicting views such as anti-minority group feelings, and egalitarian values with the idea that ethnic minorities demand and benefit from illegitimate changes in the racial hierarchy (Tougas et al., 2004). Examples of symbolic racism are the opposition to affirmative action under the guise that it unfairly gives certain people advantages over others or the stop and frisk laws under which police officers are able to target a preponderance of ethnic minority citizens but still claim it is lawful and randomized.

Symbolic racism stems from anti-Black affect and traditional values and the perception that Blacks violate traditional American values such as self-reliance or the “Protestant work ethic” (Green, Staerklé, & Sears, 2006). Symbolic racism therefore reflects Whites’ moral codes that call for socially desirable behaviors in an orderly society (Green et al., 2006); this is covert because people can provide socially acceptable

rationalizations (e.g., political arguments) for the reason behind their beliefs rather than their real emotional experience of fear or anxiety about the “cultural other”. Racism is now more likely to be camouflaged and covert and that it has advanced from old-fashioned racism where overt racial hatred and bigotry is knowingly and publicly shown, to a more vague form that is hard to identify and acknowledge (Sue et al., 2007). Covert racism has also been understood as feeding on traditional prejudicial views (Tougas et al., 2004). Racial microaggressions are considered a specific type of covert racism/discrimination.

Within this line of research it is important to note that a person’s perception of experiencing a discriminatory event is critical when examining the impacts they may have on that person’s life, rather than measuring if a discriminatory event actually occurred or not. The perception of discrimination is what matters because that is what puts the recipient in a catch-22 where they question if the discrimination occurred, how to react to it, and what the consequences of their reaction might be, all of which take up a great deal of a person’s mental resources (Sue, 2010). Flores, Tschann, and Dimas (2008) found perceived discrimination to be significantly related to elevated depression, poorer general health, and more health symptoms among Latinx adults. Ethnic minority college students who experienced perceived discrimination had an increased risk for psychological distress, suicidal ideation, state and trait anxiety, and clinical depression (Hwang & Goto, 2008). Younger college students may be at a higher risk of psychological distress (Hwang & Goto, 2008).

Research has shown a negative relationship between general mental health outcomes and perceived discrimination. A meta-analysis of 192 articles related to

perceived discrimination and health outcomes found that perceived discrimination was negatively related to mental health outcomes such as depressive symptoms, anxiety symptoms, self-esteem, life satisfaction, happiness, and general mental health among others ($r = -.20$; Pascoe & Smart Richman, 2009). This meta-analysis also found that high levels of perceived discrimination were related to negative health outcomes such as risk factors related to outcomes like cardiovascular disease, diabetes, respiratory conditions, and other general indicators of illness such as nausea and headaches (Pascoe & Smart Richman, 2009). Nadal, Wong, Sriken, Griffin, and Fuji-Doe (2015) found microaggressions to be a predictor of general mental health problems among Asian Americans throughout the lifespan (ages 17-60). In particular, microinvalidations were found to be most predictive of negative mental health outcomes (Nadal et al., 2015).

Another study looking at the relationship between alcohol use and microaggression among ethnic minority college students found that college students of color who experience a high amount of microaggressions may be at increased risk for underage binge drinking, higher anxiety, and the aversive consequences of drinking alcohol (Blume, Lovatho, Thyken, & Denny, 2012). Perceived racial microaggressions made a statistically significant contribution to predicting depressive symptoms in Black women (Donovan, Galban, Grace, Bennett, & Felicié, 2012). Experiences of microaggressive events among African American college students were linked with perceptions of being a burden on others, which in turn led to increased suicidal thoughts (Hollingsworth et al., 2017). Microaggressions also impact perceived stress and as such ethnic minorities have the added burden of dealing with these race-related events, putting

them in a catch-22, and that increases their risk of experiencing depressive symptoms (Torres et al., 2010).

Wang and colleagues (2011) examined externalizing emotion in people who believed they were being treated differently because of their race and found that participants' reported ratings of the intensity of negative emotions were related to the belief that they the treatment was due to their race. In this study the way participants were treated differently was both negative and positive, but the mere fact that they were being treated differently and attributed that treatment to their race was what impacted their negative emotional experience (Wang et al., 2011). Armstead et al. (1989) investigated the relationships between racism, physiological arousal, and anger suppression and found that blood pressure increased more when participants were exposed to racist stimuli rather than anger-provoking stimuli. This physiological reactivity was also examined in a study that found emotional responses to perceived racial discrimination and blood pressure were significantly negatively correlated with feelings of frustration or sadness (Barksdale et al., 2009). There is limited discrimination research looking specifically at microaggressions, but the studies that have been reported display how negatively discrimination impacts victims.

2016 presidential campaign and election. The aforementioned research describes a new form of racism that emerged as it became less socially acceptable to express racist ideologies however, it did not take into account the event that there would be another shift, this time backwards, in how racism was expressed in U.S. culture. The 2016 presidential campaign was said to have racial undertones, evidenced by numerous examples from various speeches including the statement made by Donald Trump in

which he generalized all Black people as living in poverty (Hewitt, 2016). Racial issues were also described as a “constant and troubling feature” of the campaign rather than occasional occurrences (Henderson, 2016). The stereotypical statements and discriminatory imagery shared during the election seemed to set the stage for racially charged and anti-Semitic violent incidences that began occurring mere days after the election and directly referenced rhetoric from Donald Trump. Some of these incidents included the vandalizing of a church sign that offered Spanish services and was replaced with “TRUMP NATION WHITES ONLY” or a Muslim student who was threatened to either remove her hijab or face being set on fire by a man at the University of Michigan (Reilly, 2016). These incidents no longer resemble modern racism, but instead hearken back to times where people attended lynchings as family events.

After the immediate consequences of the campaign season and election results scholars began dissecting the contributing factors to, and impacts of, the election with race as a central factor. Many argued that Trump used racial issues as a way to drive a wedge between voters and that his campaign strategies (e.g., calling for a border wall) have led to a return to an emboldened en/whitening epistemology (Matias & Newlove, 2017; Tatum, 2017). DeJonckheere, Fisher, and Chang (2018) qualitatively investigated the impacts of the presidential election on 80 young Americans aged 14-24 who were predominantly White (49%) finding that a large portion (86% pre-election; 71% post-election; 63% 4 months post-election) of the participants experienced emotional impacts. These participants shared fears related to the travel bans implemented, feeling that racism and violence were on the rise in America, and that the election sent the message that it was okay to be discriminatory (DeJonckheere et al., 2018). The United States Department

of Justice Federal Bureau of Investigation (FBI; 2018) reported that there were 7,175 hate crimes reported in 2017 that involved 8,437 incidents, which was an increase from 2015 when there were 5,850 hate crimes involving 6,885 incidents reported (U.S. Department of Justice & FBI, 2016). It is clear that the U.S. has experienced another shift in public portrayals of racist ideology and beliefs that seems better defined by old-fashioned racism than modern racism, which was substantially impacted by the 2016 presidential race.

Impact of Racism on White Americans

The study of racism and its impact on those who experience it, typically ethnic minorities, has led to the examination of the ways that Whites are affected by racism. Much of the literature examining this phenomenon uses the phrase *costs of racism to Whites*, conceived by Kivel (2002) and defined as “negative psychosocial consequences that Whites experience as a result of the existence of racism” (Spanierman, Poteat, Beer, & Armstrong, 2006, p. 434). Some of these costs are reported to be guilt and shame, irrational fear of people of other races, limited exposure to people of different races and cultures, and distorted beliefs about race and racism (Spanierman et al., 2006). These costs are not comparable to the economic, spiritual, political, and social costs that people of color face as a result of White privilege and racism, and it is important to understand that racism affects many people in many different ways (Todd, Spanierman, & Poteat, 2011). Broad costs of racism to Whites include economic, interpersonal, psychological, cultural, educational, and even geographical domains of daily life.

Spanierman and Heppner (2004) obtained results from 361 participants in a study to validate the Psychosocial Costs of Racism to Whites Scale; in this scale higher scores denote higher costs. Three factors emerged through exploratory and confirmatory factor

analyses in this study: White Empathic Reactions Toward Racism, White Guilt, and White Fear of Others. The first factor, White Empathic Reactions Toward Racism, was associated with overall higher levels of racial awareness, general attitudes toward racial diversity, and ethnocultural empathy. The second factor, White Guilt, indicated that individuals who reported moderate to high levels of guilt also had some sort of understanding of institutional racism, responded positively to items regarding positive ethnic minority attitudes, and that these individuals also experienced a lack of commitment to their racial attitudes. The third factor, White Fear of Others, was negatively related to White Empathic Reactions Toward Racism, Ethnocultural Empathy, and racial sensitivity. Greater levels of White fear were also associated with dominant, conflictive, and dependent White racial attitudes. Researchers expanded upon Spanierman and Heppner (2004) and in a subsequent study found that individuals fell into five cluster groups (Spanierman et al., 2006).

Economic costs of racism. Paul Kivel (2002) addressed how racism impacts economics, which negatively affects Whites because marginalized groups have been cast as economic threats to White Americans when in reality the threat lies within corporate leaders, who are predominantly White, that make the decisions that affect the country's workforce. Blaming people who are on welfare or those who are undocumented draws attention away from those who are really in charge of the country's wealth (Kivel, 2002). Chrobot-Mason and Aramovich (2013) examined diversity in the workplace and one of their findings suggested that perceptions of diversity climate may impact the degree to which employees feel that they are able to be themselves at work which in turn impacts decision making, coming up with new solutions, and their identification with the

organization. Gates and Mark (2012) found that among a sample of 1,450 nurses, job satisfaction was positively associated with race/ethnicity diversity for older nurses; this finding did not support their original hypothesis, which stated race/ethnicity diversity would be related to negative outcomes. However, diversity in the workplace has been detrimental in a few circumstances such as when women and ethnic minorities are disproportionately assigned to manage diversity programs. Harris (2012) generated a number of propositions addressing this issue after interviewing 16 local government employees. One of these propositions is that “Women and minorities are deliberately segregated to manage diversity programs in the belief that only they are best at handling or should handle such affairs”, which leads to feelings of isolation, frustration, and a lack of respect (Harris, 2012, p. 790).

Psychosocial costs of racism. Research by Spanierman and Heppner (2004) has examined the different psychosocial costs Whites experience from racism such as affective, cognitive, and behavioral costs. Psychological costs appear when racism evokes feelings that conflict with beliefs people hold and can impact self-esteem and actually lower it (Kivel, 2002). Affective costs of racism to Whites include anxiety and fear, such as the fear a White person experiences when in a Black neighborhood, sadness and helplessness, which Whites experience when they realize the pervasiveness of racism in the U.S., guilt and shame, which Whites may experience when they become aware of the unfair advantages they receive, and apathy, which is apparent when Whites show a lack of interest in the problem of White racism (Spanierman & Heppner, 2004). Cognitive costs are comprised of distorted views of the self and distorted views of others (Spanierman & Heppner, 2004). An example of the distorted view of the self is the view

that the self is not a racial being because the self is White and example of the distorted view of others is a dependence on stereotypes rather than actual information about people of different races (Spanierman & Heppner, 2004).

Behavioral costs are defined as “restricted actions or limitations on one’s behavior that may be express as avoiding racial situations” (Spanierman & Heppner, 2004, p. 251). This may be exhibited by the limited or lack of personal relationships Whites have with people of other races (Spanierman & Heppner, 2004). Many interpersonal interactions are directly influenced by these behavioral costs of racism. Not only do disagreements over issues, or confrontations, about racism put strain on family relationships and friendships with other Whites, but racism also makes it hard to maintain friendships and other relationships between Whites and people of color (Kivel, 2002).

Recently there has also been an increase in the number of studies investigating the occurrence of racial shooting bias, which is a more high stakes behavioral cost. Mekawi, Bresin, and Hunter (2016) examined the role of fear in shooting bias, along with the impact of empathy and dehumanization on that relationship, among 322 White undergraduate students using a computer simulation game that required participants to “shoot the criminal” (i.e., the image of a face paired with a gun) or “not shoot” the person (i.e., the image of a face paired with a soda can or other benign object) within a time limit of less than one second. Participants who indicated high levels of White fear, or fear of ethnic/racial minorities, had a more liberal threshold for shooting Black targets, but not White or East Asian targets (Mekawi et al., 2016, p. 325). When the researchers included the role of dehumanization they found that White fear was only related to shooting bias of Black targets when participants also indicated a greater tendency to dehumanize Black

people (Mekawi et al., 2016). Further, this research team found that low levels of perspective taking and high levels of White fear were related to more liberal shooting thresholds for Black targets, but again not for White or East Asian targets suggesting this relationship was specific to Black targets (Mekawi et al., 2016). In contrast, participants who indicated high levels of perspective taking did not demonstrate the shooting bias despite the level of their White fear (Mekawi et al., 2016). Studies investigating the impact to police officers of killing or injuring others while on the job have found those incidents to be significantly related to Post-Traumatic Stress Disorder (PTSD) symptoms, predicted depressive symptoms, and alcohol abuse (Komarovskaya et al., 2011). The after effects of such implicitly biased action seem to deeply negatively impact the perpetrator, but it has been shown that there are ways to prevent those biased actions from occurring in the first place.

Cultural costs of racism. Racism also impacts the culture of Whites. Whites romanticize the cultures of people of color because in order to be a part of mainstream American culture people have to leave behind their cultures of origin (Kivel, 2002). Unfortunately, this leads White people to believe, and even proclaim, that they have no culture. This type of thought is linked to the concept of colorblind racial ideation, which refers to the belief that race should not and does not matter in achievement contexts (e.g., employment, college admissions; Neville, Lilly, Duran, Lee, & Browne, 2000). While this concept seems commendable for trying to eliminate specific racial or ethnic groups it is actually quite harmful because it sends the message that the experience of a person of color is invalid and that the role race plays in their daily lives is not important. Educational costs include a misunderstanding of history and politics. The portrayal of

people of color and their contribution to the creation of the U.S. leaves a gap in the experiences that many Whites have with people of color today, and contributes to the feeling of superiority Whites have (Kivel, 2002). Geographical costs of racism have to do with the limitations Whites perceive in regards of where they can travel or visit and remain safe (Kivel, 2002). This cost is tied to educational costs of racism because it limits the experiences and information that Whites are exposed to. These broader costs are often overlooked and not often researched.

Summary

The U.S. had been in flux in regard to race since the end of the Civil Rights era when racist ideology was determined undesirable to pronounce in public and more covert forms began to take rise, though this may no longer be the case (Pearson, Gaertner, & Dovidio, 2009; Matias & Newlove, 2017). Subtle forms of discrimination are recognized as problematic. Subtle forms have come to be generally known as microaggressions, and these can occur intentionally or unintentionally, verbally or nonverbally, and interpersonally or environmentally (Sue et al., 2007). The Microaggression Process Model explains the process victims of microaggressions go through however, this model combined with the Singer-Schachter Theory of Emotion has the potential to also inform the experiences of bystanders who witness microaggressions occurring and the impact that these observations have on their cognitive, physiological, and emotional functioning. These impacts are also related to associated costs from racism and discrimination for Whites such as cultural and psychosocial costs that Whites may experience. Microaggressions have detrimental impacts to the health and well-being of victims, and potentially bystanders, of these interactions. The health risks associated with

discriminatory interactions, and particularly with the habitual nature that these interactions occur, for any and all involved have become harmful enough for the examination of how microaggressions impact those not directly involved in the interaction to be warranted.

CHAPTER III

METHOD

Participant Characteristics

Participants consisted of undergraduate and graduate students enrolled at a large predominantly White university (PWU) in northern Utah. Participants were recruited via flyers posted around campus, on course websites (e.g., Canvas), and through an online research participation program, SONA, to take part in an experimental study investigating stress and academic achievement. A total of 124 students completed the experiment, including 100 students who indicated their ethnicity as European American/White; due to the nature of the study only data from European American/White identifying participants was used in analysis. Participation in the study was confidential, with the student identification number being used to align data for each participant at the different time points. Participation was compensated with extra credit through paper slips and the SONA system based on instructor willingness. During screening, one participant was disqualified from the study due to an elevated blood pressure reading; this participant was given literature about hypertension and provided with alternative research participation options.

Table 1 presents demographic data for the sample. The mean age of participants was 20.52 ($SD = 3.69$; range 18-46); 94% of the sample was 24 years of age or younger. The majority of the sample were women ($n = 69$), single ($n = 90$), first year students ($n = 55$), and participated in the experiment after the 2016 presidential campaign and election ($n = 58$).

Table 1

Demographic Information of Sample (N = 100)

| Variables | <i>n</i> | % |
|--------------------------|----------|----|
| Class Standing | | |
| First year | 55 | 55 |
| Sophomore | 26 | 26 |
| Junior | 11 | 11 |
| Senior | 8 | 8 |
| Gender | | |
| Female | 69 | 69 |
| Male | 31 | 31 |
| Marital Status | | |
| Single | 90 | 90 |
| Married | 7 | 7 |
| Divorced | 2 | 2 |
| Other | 1 | 1 |
| Personal Income | | |
| Under \$10,000 | 76 | 76 |
| \$10,000-20,000 | 17 | 17 |
| \$20,000-35,000 | 5 | 5 |
| \$35,000-50,000 | 2 | 2 |
| \$50,000-75,000 | 0 | 0 |
| Over \$75,000 | 0 | 0 |
| Household Income | | |
| Under \$10,000 | 12 | 12 |
| \$10,000-20,000 | 10 | 10 |
| \$20,000-35,000 | 6 | 6 |
| \$35,000-50,000 | 21 | 21 |
| \$50,000-75,000 | 12 | 12 |
| Over \$75,000 | 37 | 37 |
| Mother's Education | | |
| < High School | 2 | 2 |
| Diploma/GED | 13 | 13 |
| Some College | 28 | 28 |
| 4 year University Degree | 41 | 41 |
| Graduate Degree | 16 | 16 |
| Father's Education | | |
| < High School | 2 | 2 |
| Diploma/GED | 9 | 9 |
| Some College | 23 | 23 |
| 4 year University Degree | 36 | 36 |
| Graduate Degree | 29 | 29 |
| Election | | |
| Pre 2016 Election | 42 | 42 |
| Post 2016 Election | 58 | 58 |

Experimental Design and Control

The experiment contained three roles: participant, decoy, and researcher. The decoy was presented as another study participant in order to provide the necessary context for the participant to witness a microaggressive interaction. Decoys were cisfemale Latina research assistants and researchers were cisfemale European American research assistants. Women were chosen for both roles in order to control for gendered power dynamics that could have played a confounding role in the experimental conditions. Most decoys were visible ethnic minorities, and the researcher addressed the decoy with a noticeably ethnic name for those who were more visually ambiguous. All research assistants engaged in substantial training of experimental procedures (see Appendix A). Throughout the course of the study research assistants consulted with the primary investigator, as well as with each other, when procedural questions and concerns arose as a way to maintain fidelity with the experimental design.

There were also three experimental conditions: control, microaggression, and blatant racism. The conditions were chosen to provide a nuanced examination of the microaggression experience as compared to a situation in which discriminatory views were either absent or clearly present. The microaggressive and blatantly racist statements were tested on, and approved by, experts in microaggression research as representing two distinct form of racial/ethnic discrimination; these statements are provided in the following section and Appendix B.

Two surveys (Time 1 and Time 2) were created from primary and filler measures, which was necessary due to the use of deception for the study. Primary measures included: the Social Desirability Scale-17 (SDS-17), the Positive Affect and Negative

Affect Scale (PANAS), the Wide Range Achievement Test 4 (WRAT-4), along with the heart rate and blood pressure monitor. These measures were used to test the primary hypotheses of the study. Filler measures were included to add face validity to the study and provide the necessary context for the experimental manipulation, but could also provide additional information relevant to the study in future analyses as seen in Torres, Reveles, Mata-Greve, Schwartz, & Domenech Rodríguez (under review). Filler measures included: the Empathy Quotient, the Patient Health Questionnaire-9, the Colorblind Racial Attitudes Scale, the Scale of Ethnocultural Empathy, and the Stroop Task. Psychometric properties for each scale are provided in a subsequent section.

Sampling Procedures

The researcher obtained approval from Utah State University's Institutional Review Board (IRB). Participants were recruited primarily through instructors of an introductory psychology course, as well as other university courses, to participate in a study about testing anxiety. Once recruited, potential participants were scheduled for an appointment at the Psychology Community Clinic in the psychology department at Utah State University (USU). Participants were asked to complete a demographics questionnaire via Qualtrics prior to their appointment. Participants and a decoy were taken from the waiting room to a therapy room, which were private rooms consisting of chairs, a table, and recording capabilities, in order to obtain informed consent. After consent was obtained the decoys' and potential participants' heart rate and blood pressure were assessed using the Omron 7 Series Wrist Blood Pressure Monitor (Model BP652) to ensure they met inclusion criteria of having a blood pressure within the normal range.

Participants that met criteria were taken to a room with a decoy where they both completed a math task. The experimenter remained in the room to administer and monitor the math task, which allowed 15 min for completion and then collected the test protocols. The experimenter then asked participants to complete more baseline measures using a tablet and also took heart rate and blood pressure measurements. The baseline measures were: Positive Affective and Negative Affective Schedule (PANAS), the Empathy Quotient (EQ), the Social Desirability Scale-17 (SDS-17) and the Patient Health Questionnaire-9 (PHQ-9). Decoys also completed these measures, but their data was not collected nor used in analyses. Once the participant finished completing the survey the experimenter collected the tablet. As part of the experimental manipulation, the decoy continued working on her surveys. The participant was randomly assigned to be in one of three conditions (control, microaggression, blatant racism) using the Research Randomizer program (Urbaniak & Plous, 2013). In the control condition, the experimenter paused and said to the decoy, “You know what, let me find another room so you can finish your experiment while she finishes up here.” In the microaggression condition, the experimenter walked near the decoy after 1 min, sighed and said, “You’re pretty far back. Is English your first language?” In the blatant racism condition, the experimenter stated, “This is America, I wish you Mexicans would learn to read English,” The decoy responded with a simple “What?” in both the microaggression and blatant racism conditions. The experimenter then turned to the participant and said, “You know what, let’s go into the other room and finish your experiment while she finishes up.” A script of the experiment is provided in Appendix B. After taking the participant

into another room the experimenter measured the participant's heart rate and blood pressure for the second time point.

Participants were then administered a paper-based Stroop test, to further evaluate cognitive processes of attention and concentration, and asked to complete a second math task. Once they finished both of those tasks the experimenter distributed a tablet with a link to a survey containing the PANAS, BSI, and PHQ-9 for completion once more with the addition of the Color-Blind Racial Attitudes Scale (CoBRAS), and the Scale of Ethnocultural Empathy (SEE). Upon completion of this final survey participants were given their extra credit and a verbal debrief (see Appendix B) of the study by the experimenter. The debrief procedure changed during the course of the study from a group-based debrief session at the end of the semester to immediate debriefing of participants at the end of their experiment session due to ethical concerns, which are addressed in detail in the discussion section.

Data collection timeline. Due to the complex nature of the study design, which required the assistance of research assistants, there were breaks during the data collection period. Data collection began in Fall 2015 when a total of 14 participants engaged in the experiment and an additional 21 participants engaged in the Spring of 2016, with a total of 35 people participating in this first phase of data collection. Data collection was paused during the Fall of 2016. During this time the lead researcher put more structure in place for the recruitment and retention of research assistants that required a yearlong commitment in order to combat inefficiencies with research assistant training. Data collection was reinitiated in Spring 2017 and continued through Fall 2017 (phase two) with a total of 85 participants engaging in the experiment during that time. These

differing phases of data collection may explain some of the significant results regarding the 2016 Presidential Campaign and Election described in the results section.

Sample Size and Power

Estimated sample size was calculated using the G*Power software (Faul, Erdfelder, Buchner, & Lang, 2009). This number was generated based on a power of .80, alpha probability = .10, for a linear multiple regression to determine if and in what ways microaggressions had an impact on academic performance through a moderated mediational model. The effect size was estimated as moderate, $f = 0.15$, to ensure that there would be a sufficient amount of participants to detect potential effect for all of the variables. The software returned an estimated size for this study of 111 participants; about 37 participants per group. In the final sample there were about 33 participants per group.

Measures

Filler measures. Three measures were not intended to answer research questions for this dissertation: Social Desirability Scale, Empathy Quotient, and Patient Health Questionnaire-9. These filler measures helped protect the fidelity of the study by providing an equivalent amount of measures between the Time 1 and Time 2 surveys. This was necessary due to the examination of racial attitudes in the Time 2 survey following the experimental manipulation in the hope of clarifying participant reactions. The results of the Social Desirability Scale have subsequently been examined as covariates when examining the role of colorblind racial attitudes in the emotional and physiological responses of witnessing a discriminatory interaction in a study that

combined the data from this study with another data set collected at Marquette University (Torres et al., under review).

Baseline. The Social Desirability Scale (SDS-17) is a 16-item scale developed to measure the likelihood that a participant is responding in such a way that they are attempting to present themselves in an overly positive light (Stöber, 2001). This measure contains statements that describe behaviors that are either socially desirable (e.g., “I never hesitate to help someone in case of emergency”) or undesirable (e.g., “I sometimes litter”), and asks respondents to indicate whether it is true or false that they engage in those behaviors. Initial reliability and validity statistics of the measure showed good internal consistency ($\alpha = .72 - .75$) and test-retest reliability ($r = .82$) over four weeks (Stöber, 2001). The current study had marginally acceptable reliability scores ($\alpha = .65$). Scores are summed and higher scores indicate higher levels of respondents portraying themselves in an overly positive light.

The Empathy Quotient (EQ) is a 60-item questionnaire that was initially developed in order to examine levels of empathy among people diagnosed with an Autism Spectrum Disorder (Baron-Cohen & Wheelwright, 2004). The questionnaire consists of statements such as, “I am good at predicting how someone feels” and “I often find it difficult to judge if someone is rude or polite” that respondents are asked to rate on a Likert-type scale ranging from *strongly agree* (1) to *strongly disagree* (4). Initial investigation of this measure indicated good overall reliability ($\alpha = .92$) and test-retest reliability ($\alpha = .97$; Baron-Cohen & Wheelwright, 2004). The current study had an acceptable reliability ($\alpha = .79$). Scores are summed and higher scores indicate higher levels of empathic behavior.

The Patient Health Questionnaire (PHQ-9) is a nine-item scale used to measure depressive symptoms (Kroenke, Spitzer, & Williams, 2001). The measure contains statements that reflect symptom criteria for Major Depressive Disorder from the DSM-IV (e.g., “Little interest or pleasure in doing things”), which participants are asked to rate on a 4-point Likert-type scale that ranges from *not at all* (0) to *nearly every day* (3). Initial examination of this measure indicated excellent overall reliability ($\alpha = .89$) and excellent test-retest reliability ($\alpha = .84$; Kroenke, et al., 2001). The current study had good reliability ($\alpha = .82$). Scores are summed and higher scores indicate higher levels of depressive symptoms.

Affect. The Positive Affective and Negative Affective Schedule (PANAS) is a 20-item reliable and valid instrument that measures positive and negative affect. The measure contains 20 words that describe emotions and feelings (e.g., excited, ashamed, irritable; Watson, Clark, & Tellegen, 1988). Participants are asked to report to what extent they felt the emotion during the past few weeks on a 5-point Likert-type scale that ranges from *very slight or not at all* (1) to *extremely* (5). Validity for the PANAS has convergent correlations that have been reported ranging from .89 to .95 and discriminant correlations ranging from -.02 to -.18 (Watson et al., 1988). The alpha reliabilities of this scale are acceptable for both positive (range from .86 to .90) and negative affect (.84 to .87) scales for a range of times given in the instructions (e.g., moment, today, year; Watson et al., 1988). The current study had good reliabilities for both positive ($\alpha_{T1} = .84$, $\alpha_{T2} = .87$) and negative affect ($\alpha_{T1} = .85$, $\alpha_{T2} = .87$). Scores are summed and higher scores indicate higher levels of affect (i.e., positive or negative) with a range of 10-50 for each scale (Watson et al., 1988).

The Color-Blind Racial Attitudes Scale (CoBRAS) is a 20-item scale used to measure cognitive dimensions of color-blind racial attitudes. This measure contains statements that represent the denial of racial dynamics and/or an unawareness of the existence of racism (Neville et al., 2000). Participants rate statements such as, “Racial problems in the U.S. are rare, isolated situations” on a Likert-type scale that ranges from *strongly disagree* (1) to *strongly agree* (5). A confirmatory factor analysis showed that a three-factor model was a good fit indicated by the GFI (.90) and the AGFI (.87), which were both above a suggested level of .85 (Neville et al., 2000). Initial split-half reliability estimated a reliability of .72 and a 2-week test-retest reliability was estimated at .68 for the CoBRAS overall (Neville et al., 2000). The reliability in the current study was good ($\alpha = .80$). Scores are summed and range from 20 to 120. Higher scores indicate greater colorblind racial attitudes.

The Scale of Ethnocultural Empathy (SEE; Wang, Leu, & Shoda, 2003) is a 31-item scale used to measure empathy toward members of racial and ethnic groups other than one’s own. The SEE has four factors: Empathic Feeling and Expression, Empathic Perspective Taking, Acceptance of Cultural Differences, and Empathic Awareness. Participants are asked to rate each item on a 6-point Likert-type scale that ranges from *strongly disagree that it describes me* (1) to *strongly agree that it describes me* (6). A confirmatory factor analysis showed an excellent fit, $\chi^2(21, N = 340) = 26.60, p = .18$; $\chi^2/df = 1.27$; NNFI = .99; NFI = .98; RMSEA = .03 (Wang et al., 2003). A 2-week test-retest reliability showed acceptable stability of the scale, $r = .76$ (Wang et al., 2003). The current study had a good reliability of the overall scale ($\alpha = .88$) and a range of good to

acceptable reliabilities for the subscales ($\alpha_{EFE} = .85$, $\alpha_{EPT} = .67$, $\alpha_{ACD} = .78$, $\alpha_{EA} = .76$). Scores are summed and higher scores indicate a higher level of ethnocultural empathy.

Cognition. Attention and concentration was measured using a paper version of the Stroop Test. The Stroop Test requires participants to correctly identify the color of a printed text, most commonly a word that is the name of a color, within a given time limit. The current study used the Stroop Color and Word Test: Adult Version (Golden & Freshwater, 2002). A researcher administered the test to participants who had 5 min to correctly identify the color of a written text.

Academic performance was measured using the math tasks of the Wide Range Achievement Test 4 (WRAT-4; Wilkinson, 2006). The math tasks come in blue and green versions that mirror each other in item format and difficulty, and consist of 40 items. Participants were given standardized instructions by the experimenter and 15 min to complete the blue version of the math task before they witnessed the experimental interaction. Participants received a shortened standardized version of the instructions along with another 15 min to complete the green version of the math task after they witnessed the experimental interaction.

Stress. Heart rate and blood pressure (BP) were used as two biological indicators of distress. Blood pressure and heart rate were assessed at four time points using an Omron Wrist Blood Pressure Monitor (Model BP652). Heart rate has been shown to increase during mental stress inducing tasks, which has been argued to be an indicator of how a participant is coping with the task (Mulder, 1992). Heart rate has also been described as comparable to other physiological measurements of stress, such as EEG measures (Mulder, 1992), and due to its ease of measurement, was chosen for the present

study. Heart rate varies from person to person, but a normal resting heart rate is between 60 (beats per minute) and 100 (beats per minute; American Heart Association, 2015). Systolic and diastolic BP are supported as the best available evidence to classify individuals in distress (Pickering et al., 2005). Blood pressure was evaluated as *normal* if it fell into the range of <120 and <80mm HG and *high* if it fell into the range of ≥ 140 and ≥ 90 as defined by the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure (JNC; Pickering et al., 2005). A baseline BP measurement was calculated using the average of three BP measurements taken during the initial part of the study. In late 2017, an update was made to BP guidelines that lowered the normal range to <120 and <80mm HG; high BP is now the range of 120-129 and <80mm HG, stage 1 hypertension is 130-139 and 80-89 mm HG, and stage 2 hypertension is ≥ 140 and ≥ 90 mm HG (Whelton et al., 2017).

Manipulation Check. An experimental feedback survey was created to act as a manipulation check to aid in determining participant detection of, and reaction to, the discriminatory event. The survey consisted of five questions: two questions that were rated on a Likert-type scale that ranged from *very comfortable* (1) to *very uncomfortable* (5) and three open ended questions (see Appendix D). The open ended questions were double coded by Reveles and Domenech Rodríguez and responses were categorized into three levels: no acknowledgement of unfair treatment, acknowledgement of unfair treatment, acknowledgement of unfair treatment due to discrimination. All codes were compared and rating disagreements were resolved through discussion.

CHAPTER IV

RESULTS

Preliminary Analyses

Assumptions for a repeated measures analysis of variance were calculated to determine a goodness of fit with the dataset; results showed that several assumptions were violated indicating these analyses were not a good fit for the dataset. A multilevel linear modeling (MLM) analysis was selected instead because MLM analyses control for participant to participant differences using random intercepts and do not assume independence of measurements for one participant. Intraclass correlations (ICC) were conducted to further assess the appropriateness of MLM analyses for each dependent variable: systolic blood pressure (96%), diastolic blood pressure (97%), heart rate (84%), academic achievement (51%), negative affect (91%), and positive affect (39%). These percentages indicate the amount of variance in the outcomes that are explained by clustering, or the amount of variance in the models that are attributable to person-to-person differences. These values indicated that it was appropriate to use an MLM to explain the portion of variance that emerges from individual differences.

Primary Analyses

Bivariate correlations. Bivariate correlations were conducted to examine the associations between the primary study variables are presented for the sample, along with corresponding means and standard deviations (see Table 2). The sample had a mean BP of approximately 104/65 at T1 and 103/64 at T2, which are both considered to be in the normal range (American Heart Association, 2018). The mean raw scores for the WRAT-4 ($M_{T1} = 31$, $M_{T2} = 29$) were converted to standard scores ($T1 = 74$, $T2 = 72$) for ease of

interpretation. Both scores fall in the low range in comparison to the population, which could be due to a number of factors. Participants' positive and negative affect scores were consistent with past findings (Dowd, Zautra, & Hogan, 2010; Watson et al., 1988).

Biological markers of distress were highly correlated at T1 and T2 ($r = -.351 - .787$). Systolic BP at T1 and T2 was also highly correlated with positive affect at T1 ($r = .184 - .186$). Heart rate at T1 was highly correlated with positive affect at T1 ($r = -.222$). Academic achievement scores were highly correlated at T1 and T2 ($r = .810$). Academic achievement at T1 was highly correlated negative affect at T2 ($r = -.240$ to $-.213$). Affective markers of distress were highly correlated at T2 ($r = .278$).

Table 2

Summary of Intercorrelations, Means, and Standard Deviations for Primary Study Variables (N = 100)

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|--------------------------|--------|--------|--------|--------|-------|--------|---------|---------|--------|--------|--------|--------|
| 1. WRAT-4 (Pre) | -- | .785** | .155 | .121 | .023 | -.096 | -.148 | -.054 | -.175 | -.204* | .122 | .188 |
| 2. WRAT-4 (Post) | | -- | .106 | .123 | .024 | -.004 | -.098 | -.019 | -.237* | -.206* | .018 | .112 |
| 3. Systolic BP (T1) | | | -- | .637** | .227* | -.050 | -.258* | -.313** | -.099 | -.165 | .063 | .098 |
| 4. Systolic BP (T2) | | | | -- | .201 | .192 | -.289** | -.351** | -.023 | -.070 | .105 | .179 |
| 5. Diastolic BP (T1) | | | | | -- | .442** | .180 | .241* | .017 | -.172 | .044 | .031 |
| 6. Diastolic BP (T2) | | | | | | -- | .229* | .310** | .003 | -.053 | .023 | .010 |
| 7. Heart Rate (T1) | | | | | | | -- | .787** | .005 | -.124 | -.222* | -.153 |
| 8. Heart Rate (T2) | | | | | | | | -- | -.111 | -.191 | -.194 | -.169 |
| 9. Negative Affect (T1) | | | | | | | | | -- | .674** | .096 | .185 |
| 10. Negative Affect (T2) | | | | | | | | | | -- | .172 | .278** |
| 11. Positive Affect (T1) | | | | | | | | | | | -- | .757** |
| 12. Positive Affect (T2) | | | | | | | | | | | | -- |
| <i>M</i> | 106.69 | 106.52 | 109.19 | 107.26 | 68.50 | 67.68 | 82.81 | 79.27 | 15.40 | 14.62 | 25.83 | 23.76 |
| <i>SD</i> | 14.17 | 12.61 | 18.95 | 17.75 | 10.05 | 10.42 | 19.40 | 18.37 | 5.41 | 5.70 | 6.35 | 6.5 |

Note. BP = blood pressure; T1 = Time 1; T2 = Time 2

** $p < .01$.

* $p < .05$.

Three-way contingency table analysis. A three-way contingency table analysis was conducted to evaluate whether students were more or less likely to report a discriminatory experience in the exit survey based on their experimental condition and data collection phase. The three variables were experimental group with three levels (control, microaggression, and blatant racism), exit survey response with three levels (no acknowledgement of unfair treatment, acknowledgement of unfair treatment, acknowledgement of unfair treatment due to discrimination), and data collection phase with two levels (phase 1, pre-election, and phase 2, post-election). Nine participants alluded to racial issues being part of the experiment after experiencing the experimental manipulation in their answers to the exit survey. Experimental group, exit survey response, and data collection phase were significantly related, Pearson $\chi^2(4, N = 90) = 27.30, p < .001$, Cramér's $V = .39$ (see Table 3). Follow-up pairwise comparisons were conducted to evaluate the difference among data collection phase proportions. The LSD method was used to control for Type 1 error at the .05 level across all three comparisons. One pairwise difference emerged between data collection phases for the blatant racism condition, such that participants in phase one of data collection were almost 1.97 times more likely to indicate they *acknowledge unfair treatment due to discrimination* than participants in phase two. Alternatively, participants in the blatant racism condition in phase two of data collection were 4.20 times more likely to report *no acknowledgement of unfair treatment* than their counterparts in phase one.

Table 3

Frequencies of Exit Survey Responses by Experimental Condition (N = 90)

| Data Collection Phase | Condition | No Acknowledgement | Acknowledgement of Unfair Treatment | Acknowledgement of Unfair Treatment Due to Discrimination |
|-----------------------|-----------------|--------------------|-------------------------------------|---|
| Phase one | Control | 12 (100%) | 0 (0%) | 0 (0%) |
| | Microaggression | 8 (73%) | 0 (0%) | 3 (27%) |
| | Blatant Racism | 2 (15%) | 3 (23%) | 8 (62%) |
| Phase two | Control | 15 (100%) | 0 (0%) | 0 (0%) |
| | Microaggression | 20 (87%) | 2 (9%) | 1 (4%) |
| | Blatant Racism | 10 (63%) | 1 (6%) | 5 (31%) |
| | Total | 67 (74%) | 6 (7%) | 17 (19%) |

Research Question 1. A series of MLM analyses were conducted to examine the impact of group membership on cognitive, affective, and biological markers of distress of bystanders in one of two conditions (microaggression, blatant racism); post hoc analyses were conducted to allow for the inclusion of election (i.e., data collection phase one or two) as a fixed effect. Thus, there were three groups compared in these analyses. The control group was used as the reference group in the MLM. For all models, two time-points (T1 and T2; Level 1) were grouped by participants (Level 2). The models included fixed effects of experimental condition and time; election was added as another fixed effect during post hoc analyses. Several interactions were also analyzed in the models including experimental condition x time, experimental condition x election, time x election, and experimental condition x time x election. Interactions were further explored among predictor variables by using likelihood ratios tests on nested models that fit through maximum likelihood estimation to determine significance. Random effects were included for participants and intercepts. The final models were fit with restricted maximum likelihood (REML) and a Bonferroni correction (LSD) was applied; estimated marginal means were conducted in order to interpret changes from T1 to T2. Analyses were conducted using the MIXED models procedure in SPSS version 24.0.

Results for MLM analyses for biological markers of distress are presented in Table 4. For heart rate, analyses showed changes across time, $F(1, 97) = 8.028, p = .006$, indicating that participants experienced a decrease in heart rate over time, but no changes were found across condition. Post hoc analyses, presented in Table 5 that included the addition of election as a fixed effect showed statistically significant changes across time, $F(1, 92) = 8.189, p = .005$, which was further influenced by condition and election such

that a marginally significant 3-way interaction of condition x time x election emerged, $F(2, 92) = 3.025$ $p = .053$. Overall, participants experienced a statistically significant decrease in heart rate from T1 to T2 ($d = .18$). People who participated in the microaggression condition in phase one of data collection experienced a statistically significant decrease in their heart rate from T1 to T2 ($p = .035$; $d = .440$) compared to the control group. People who were placed in the blatant racism condition and participated in phase two of data collection experienced a statistically significant decrease compared to those in the control condition ($p = .007$; $d = .460$).

Table 4

Multilevel Models for Heart Rate and Blood Pressure

| | Heart Rate (N = 196*) | | | Systolic (N = 200*) | | | Diastolic (N = 200*) | | |
|-----------------------|--------------------------|--------|--------|------------------------|--------|--------|-------------------------|--------|--------|
| | B | SE | sig | B | SE | sig | B | SE | sig |
| Fixed Effects | | | | | | | | | |
| Intercept | 80.985 | 3.439 | < .001 | 112.415 | 3.239 | < .001 | 71.017 | 1.723 | < .001 |
| Condition | | | | | | | | | |
| Microaggression | 0.313 | 4.509 | .945 | -3.161 | 4.209 | .455 | -3.636 | 2.187 | .100 |
| Blatant Racism | 4.918 | 4.567 | .284 | -6.204 | 4.323 | .155 | -3.526 | 2.248 | .120 |
| Time (T2) | -3.541 | 1.249 | .006 | -1.936 | 1.616 | .234 | -0.819 | 1.116 | .465 |
| Random Effects | | | | | | | | | |
| | Var | SE | | Var | SE | | Var | SE | |
| Intercept (subject) | 281.956 | 46.786 | | 214.171 | 41.829 | | 45.118 | 11.831 | |
| Residual Error | 76.528 | 10.989 | | 122.751 | 18.001 | | 58.505 | 8.579 | |

*Number of observations (T1 and T2)

Note. T1 = Time 1; T2 = Time 2

Table 5

Post Hoc Multilevel Model Analyses for Heart Rate and Blood Pressure

| | | Heart Rate | | | Blood Pressure | | | | | |
|---------------------------|-----------------|------------|--------|--------|------------------------|--------|--------|-------------------------|--------|--------|
| | | (N = 200*) | | | Systolic (N = 200*) | | | Diastolic (N = 200*) | | |
| | | B | SE | sig | B | SE | sig | B | SE | sig |
| Fixed Effects | | | | | | | | | | |
| Intercept | | 74.813 | 4.614 | < .001 | 116.616 | 3.449 | < .001 | 69.377 | 1.796 | < .001 |
| Condition | | | | | | | | | | |
| | Microaggression | 3.896 | 5.956 | .514 | -4.280 | 4.069 | .296 | -3.308 | 2.179 | .133 |
| | Blatant Racism | 8.688 | 6.341 | .173 | -6.295 | 4.165 | .134 | -3.500 | 2.230 | .120 |
| Time (T2) | | -3.500 | 3.062 | .256 | -1.936 | 1.616 | .234 | | | |
| Election (T2) | | 13.604 | 7.048 | .056 | -9.802 | 3.409 | .005 | 2.869 | 1.826 | .120 |
| Condition x T2 | | | | | | | | | | |
| | Microaggression | 1.042 | 3.953 | .793 | | | | | | |
| | Blatant Racism | -4.500 | 4.208 | .288 | | | | | | |
| Condition x Election | | | | | | | | | | |
| | Microaggression | -4.896 | 9.604 | .611 | | | | | | |
| | Blatant Racism | -8.604 | 9.480 | .366 | | | | | | |
| T2 x Election | | 1.500 | 4.677 | .749 | | | | | | |
| Condition x T2 x Election | | | | | | | | | | |
| | Microaggression | -6.625 | 6.373 | .301 | | | | | | |
| | Blatant Racism | 8.188 | 6.291 | .196 | | | | | | |
| Random Effects | | | | | | | | | | |
| | | Var | SE | | Var | SE | | Var | SE | |
| Intercept (subject) | | 265.603 | 45.030 | | 193.801 | 39.089 | | 44.079 | 11.707 | |
| Residual Error | | 74.991 | 11.057 | | 122.751 | 18.001 | | 58.218 | 8.491 | |

*Number of observations (T1 and T2)

Note. T1 = Time 1; T2 = Time 2

For systolic blood pressure, the MLM analyses did not show any statistically significant changes across condition or time. Post hoc analyses that included the addition of election as a fixed effect showed statistically significant changes. Analyses showed changes across election that were statistically significant, $F(1, 96) = 18.060, p < .001$. Those who participated in the experiment during phase one of data collection experienced a statistically significant decrease in systolic blood pressure from T1 to T2 ($p < .001, d = .57$). No changes emerged for diastolic blood pressure. Post hoc analyses with the inclusion of election as a fixed effect showed marginally significant changes across election, $F(1, 96) = 3.669, p = .058$. Those who participated during phase one of data collection experienced a decrease in diastolic blood pressure ($p = .058, d = .60$).

Results of MLM analyses for cognitive and affective markers of distress are presented in Table 6. For academic achievement, the MLM analyses did not reveal changes across condition or time. Two statistically significant interactions emerged in post hoc analyses with data collection phase: a 2-way interaction of condition x election, $F(2, 94) = 4.414, p = .015$ and a 3-way interaction of condition x time x election, $F(2, 94) = 3.317, p = .041$. People who participated in the experiment in the microaggression condition during phase two of data collection demonstrated a statistically significant decrease in academic achievement scores from T1 to T2 ($p = .044, d = .21$) compared to the control condition. People in the blatant racism condition showed statistically significant decreases in academic achievement scores from T1 to T2 ($p = .042, d = .21$) during phase two of data collection when compared with the control condition.

For positive affect, analyses showed changes across time, $F(1, 97.06) = 23.158, p < .001$. Overall, participants experienced a statistically significant decrease in positive

affect from T1 to T2 ($p < .001$, $d = .33$). Analyses for negative affect showed changes across condition, $F(1, 96) = 5.385$, $p = .006$, and time, $F(1, 97) = 3.811$, $p = .052$. Those in the blatant racism condition experienced a statistically significant increase in negative affect from T1 to T2 compared to the microaggression ($p = .015$, $d = .59$) and control ($p = .003$, $d = .78$) conditions. No significant interactions emerged for either positive or negative affect. Post hoc analyses that included election as a fixed effect did not demonstrate further changes.

Table 6

Multilevel Models for Academic Achievement and Affect

| | Academic Achievement | | | Affect | | | | | |
|-----------------------|----------------------|--------|-------|------------------------|-------|-------|------------------------|-------|-------|
| | (N = 200*) | | | Positive (N = 198*) | | | Negative (N = 200*) | | |
| | B | SE | sig | B | SE | sig | B | SE | sig |
| Fixed Effects | | | | | | | | | |
| Intercept | 108.982 | 2.394 | <.001 | 25.826 | 1.173 | <.001 | 13.819 | 0.937 | <.001 |
| Condition | | | | | | | | | |
| Microaggression | -4.180 | 3.142 | .187 | 0.729 | 1.537 | .637 | 0.959 | 1.217 | .433 |
| Blatant Racism | -2.191 | 3.203 | .496 | -0.503 | 1.566 | .749 | 3.831 | 1.239 | .003 |
| Time (T2) | -0.170 | 0.889 | .849 | -2.205 | 0.458 | <.001 | -0.889 | 0.452 | .052 |
| Random Effects | | | | | | | | | |
| | Var | SE | | Var | SE | | Var | SE | |
| Intercept (subject) | 140.733 | 23.222 | | 33.127 | 5.574 | | 18.923 | 3.549 | |
| Residual Error | 39.596 | 5.628 | | 10.312 | 1.483 | | 10.026 | 1.446 | |

*Number of observations (T1 and T2)

Note. T1 = Time 1; T2 = Time 2

Table 7

Post Hoc Multilevel Model Analyses for Academic Achievement and Affect

| | | Academic Achievement | | | Affect | | | | | |
|---------------------------|-----------------|----------------------|--------|--------|------------------------|-------|--------|------------------------|-------|--------|
| | | (N = 200*) | | | Positive (N = 198*) | | | Negative (N = 200*) | | |
| | | B | SE | sig | B | SE | sig | B | SE | sig |
| Fixed Effects | | | | | | | | | | |
| Intercept | | 103.375 | 3.240 | < .001 | 25.826 | 1.173 | < .001 | 13.820 | 0.937 | < .001 |
| Condition | | | | | | | | | | |
| | Microaggression | 0.125 | 4.183 | .976 | 0.729 | 1.537 | .637 | 0.959 | 1.217 | .433 |
| | Blatant Racism | 6.236 | 4.453 | .164 | -0.503 | 1.566 | .749 | 3.831 | 1.239 | .003 |
| Time (T2) | | -1.938 | 2.171 | .374 | -2.205 | 0.458 | < .001 | -0.889 | 0.452 | .052 |
| Election (T2) | | 13.087 | 4.839 | .008 | | | | | | |
| Condition x T2 | | | | | | | | | | |
| | Microaggression | 5.563 | 2.803 | .050 | | | | | | |
| | Blatant Racism | -3.285 | 2.984 | .446 | | | | | | |
| Condition x Election | | | | | | | | | | |
| | Microaggression | -12.125 | 6.584 | .068 | | | | | | |
| | Blatant Racism | -17.323 | 6.577 | .010 | | | | | | |
| T2 x Election | | 2.784 | 3.242 | .393 | | | | | | |
| Condition x T2 x Election | | | | | | | | | | |
| | Microaggression | -8.101 | 4.411 | .069 | | | | | | |
| | Blatant Racism | 2.314 | 4.406 | .601 | | | | | | |
| Random Effects | | | | | | | | | | |
| | | Var | SE | | Var | SE | | Var | SE | |
| Intercept (subject) | | 130.294 | 21.928 | | 33.127 | 5.574 | | 18.924 | 3.549 | |
| Residual Error | | 37.702 | 5.499 | | 10.312 | 1.483 | | 10.026 | 1.446 | |

*Number of observations (T1 and T2)

Note. T1 = Time 1; T2 = Time 2

Research Question 2. A paired samples t test was used to examine the impact of witnessing a microaggressive interaction on academic achievement. Results did not show differences in performance on the WRAT-4 between the pre ($M = 103.84$) and post ($M = 105.59$) assessments for participants in the microaggression condition, $t(36) = -1.34$, $p = .19$ (two-tailed). A follow-up 2×3 ANOVA was conducted to evaluate the effects of the three experimental conditions on performance of the WRAT-4 from pre to post assessments. The ANOVA indicated no significant main effects for condition, $F(2, 97) = 1.52$, $p = .224$, partial $\eta^2 = .03$, showing that there were no differences in WRAT-4 scores between groups.

Research Question 3. The primary moderation analyses were conducted using the PROCESS macro in SPSS (Hayes, 2018). The PROCESS macro uses bootstrapping techniques and ordinary least square regression to calculate direct effects of the independent variable (distress markers) on the dependent variable (academic achievement), along with the interaction of the moderators (experimental condition) and the independent variable. Table 8 shows the results of tests of direct and interacting effects of biological and affective markers of distress on academic achievement. No main effects, or interaction effects, emerged for any markers of distress.

Table 8

Summary of Moderation Analyses for Academic Achievement (N = 100)

| Model | F or F change | df | p | R ² or R ² change | coefficient | t | p |
|--------------------------|------------------|-------|------|--|-------------|--------|------|
| Systolic blood pressure | 1.589 | 5, 88 | .171 | .083 | -0.037 | -0.878 | .383 |
| Microaggression (W1) | | | | | -15.388 | -1.885 | .063 |
| Blatant racism (W2) | | | | | -14.091 | -2.124 | .037 |
| Interaction (X*W1) | 2.646 | 2, 88 | .077 | .055 | 0.134 | 1.815 | .073 |
| Interaction (X*W2) | | | | | 0.123 | 1.999 | .049 |
| Diastolic blood pressure | 0.263 | 5, 88 | .932 | .015 | -0.027 | -0.317 | .752 |
| Microaggression (W1) | | | | | -0.210 | -0.024 | .981 |
| Blatant racism (W2) | | | | | -5.051 | -0.647 | .520 |
| Interaction (X*W1) | 0.197 | 2, 88 | .821 | .004 | -0.009 | -0.069 | .945 |
| Interaction (X*W2) | | | | | 0.057 | 0.502 | .617 |
| Heart Rate | 1.065 | 5, 92 | .385 | .055 | 0.064 | 1.259 | .211 |
| Microaggression (W1) | | | | | 9.602 | 5.520 | .085 |
| Blatant racism (W2) | | | | | 5.337 | 0.985 | .327 |
| Interaction (X*W1) | -0.138 | 2, 92 | .143 | .041 | -0.138 | -1.989 | .049 |
| Interaction (X*W2) | | | | | -0.082 | -1.240 | .218 |
| Negative affect | 2.059 | 5, 93 | .078 | .099 | -0.649 | -2.611 | .011 |
| Microaggression (W1) | | | | | -6.692 | -1.696 | .093 |
| Blatant racism (W2) | | | | | -8.111 | -2.048 | .043 |
| Interaction (X*W1) | 2.124 | 2, 93 | .125 | .041 | 0.454 | 1.552 | .124 |
| Interaction (X*W2) | | | | | 0.571 | 2.061 | .042 |
| Positive affect | 0.578 | 5, 93 | .717 | .030 | 0.019 | 0.127 | .899 |
| Microaggression (W1) | | | | | -3.062 | -0.646 | .520 |
| Blatant racism (W2) | | | | | -3.518 | -0.754 | .453 |
| Interaction (X*W1) | 0.130 | 2, 93 | .878 | .003 | 0.076 | 0.395 | .694 |
| Interaction (X*W2) | | | | | 0.095 | 0.497 | .620 |

CHAPTER V

DISCUSSION

Racial/ethnic microaggressions are forms of subtle or covert discrimination that occur daily, especially in the lives of People of Color, causing the recipient psychological and physiological distress and may also adversely impact witnesses or bystanders to the interaction. This study investigated three research questions to determine the impact that witnessing a microaggressive event had on a White bystander in order to highlight the detrimental impacts of discrimination on the U.S. population as a whole. Many people celebrated a “post-racial America” after the inauguration of the first African American president Barack Obama (2008 – 2016), the mythology of which has become evident (Rachlinski & Parks, 2010). As the end of Obama’s presidency neared, the U.S. underwent a volatile presidential campaign, and subsequent election marked by covert incivilities across racial/ethnic lines. These historical events were underway during the data collection period of the current study and may have had substantial impacts on the results. The 2016 campaign season reignited racial tensions in the U.S. that bubbled to the surface in the form of overtly racist comments and behaviors. These tensions were felt across the country making the examination of the impact of witnessing discriminatory events urgent.

The results of the current study demonstrate changes in heart rate and affect that may be due to the experimental manipulation requiring participants to witness a discriminatory event. Group averages for study findings are estimated marginal means, which control for subject-to-subject variability. Findings from analyses examining the first research question were unexpected. Academic achievement was not found to decrease over the course of the study, which was expected due to the potential stress participants would experience after the

experimental manipulation. The witnessing of unfair treatment may have had a paradoxical effect in White bystanders of increasing their self-esteem rather than causing distress.

Fryberg and colleagues (2008, as cited in Fryberg, Markus, Oyserman, & Stone, 2008) found that while exposure to American Indian mascots negatively impacted the self-esteem of American Indian high school students, they had the opposite effect on European American students who reported higher levels of self-esteem after exposure compared to the control and nonnative mascot conditions. It is possible that witnessing a discriminatory interaction between the decoy and researcher actually benefitted participants by increasing their self-esteem, thus not impacting change over time. The decrease seen in positive affect and the increase in negative affect may speak to the distress participants experienced in response to witnessing a discriminatory interaction; similar changes in affect in response to stressors have been demonstrated in prior research (Dowd et al., 2010). The decreases seen in the current study in positive and negative affect and blood pressure were also observed among participants in the control condition suggesting these changes may have occurred due to habituation of the study conditions.

One unexpected finding that emerged was the decrease in heart rate during the course of the study although heart rate, along with blood pressure, was hypothesized to increase after witnessing the experimental manipulation as an indicator of stress. These findings are in contrast to extant research that uses heart rate and blood pressure as indicators of physiological stress (Lai et al., 2014). It is unclear what specific factors impacted this decrease, but this may also have been a result of habituation to the study procedures or the paradoxical effect of self-esteem that may have influenced academic achievement. Results of analyses answering the second research question did not align with hypotheses that academic

achievement scores would decrease from T1 to T2 for participants in the microaggression condition. The results for the third research question were aligned with the hypothesis that group membership would impact the relationships between academic achievement and indicators of stress (e.g., blood pressure, affect).

The results were unexpected and somewhat alarming once the data collections phases were taken into account. The timing of the election seems to have made a significant impact on participants' heart rate and systolic BP. People who participated in phase one of data collection seemed to be more sensitive to experimental conditions, as evidenced by the overall increase in heart rate and systolic BP regardless of experimental group membership. This may have been because people were still functioning under the social norm that racist attitudes and beliefs were not socially acceptable and thus were more sensitive to those types of statements in the study. More specifically, a difference emerged for those who participated after the election in the blatant racism condition in which they experienced more of an increase in heart rate than those in the microaggression condition. Due to the introduction of volatile and divisive racial rhetoric during election season people may have been more attuned to overt forms of discrimination, but not subtle forms like microaggressions.

Alternatively, these differences may be explained by *dominant group status threat*, which has been posited as the driving factor for the 2016 presidential election results (Mutz, 2016). Status threat is evoked when dominant group members feel their social status is threatened, which increases the attraction of traditional social and political hierarchies, increases defensiveness, emphasizes conformity to group norms, and increases outgroup negativity (Mutz, 2016). During the first phase of data collection for the current study the rhetoric regarding status threat was just being introduced to the American public as

campaigning began, so participants in the study may not have had this fear evoked in themselves. This would explain the discrepancy in exit survey reporting of a discriminatory experience where those in phase one were more likely to report witnessing unfair treatment due to discrimination than participants in phase two. An increase of outgroup negativity, resulting from the impact of status threat, in phase two participants would explain the lower likelihood of attributing unfair treatment to discrimination.

Data collection phase also had an impact on academic achievement and affect. People participating in the microaggression condition during phase two of data collection demonstrated a decrease in academic achievement that, in relation to the election, could speak to the social norm violation of the subtle discrimination they experienced. Those in the blatant racism condition also experienced a decrease in academic achievement during phase two of participation, which suggests that although overt racism became more normalized during the election it still has negative consequences for those who witness it. Data collection phase also had an impact on those in the control group that may be explained by decreases in subjective well-being after the election present in Clinton supporters and those who did not support either major party candidate (Lench et al., 2018). Many Utahns, especially those who identify as members of the Church of Jesus Christ of Latter Day Saints (LDS), were described as being unsettled by Donald Trump casting more ballots for the other three candidates combined, which aligns with reports of subjective well-being; although Trump did garner the state's popular and electoral votes (Associated Press, 2017). Unfortunately, political affiliations were not requested from participants preventing the direct comparison of participants to state election results. In regard to affect more specifically, participants experienced increased negative affect during the study, which was especially true for those in

the blatant racism condition. Again, not only has the election impacted affect for those living in the U.S., but discrimination has also been found to have the same impact on mental health outcomes such as life satisfaction and happiness (Nadal et al., 2015; Pascoe & Smart Richman, 2009; Torres et al., 2010; Wang et al., 2011).

Academic achievement is a critical outcome factor for college students given the resources required (e.g., time, money, energy) to pursue a higher education. This study demonstrated detrimental impacts to academic achievement for those who witnessed a microaggressive event. Stressful situations/environments have been found to negatively impact math performance because working memory demands increase in these situations, which was found to be especially true in high performers, such as college students (Beilock, 2008). The microaggression condition also had substantial impacts on the effect of systolic BP on academic achievement in that it was seen to be a significant moderator of that relationship. This further demonstrates the detrimental impacts to academic achievement that witnessing a microaggressive interaction can have as well as describing another type of cost that White Americans may experience due to discrimination (Spanierman & Heppner, 2004; Spanierman et al., 2006).

Implications for Educators and Researchers

This study has demonstrated the detrimental impacts of witnessing discriminatory events in White college students, a group that has been overlooked when investigating experiences of discrimination. While it is impossible to eradicate racist and discriminatory attitudes/beliefs from college campuses in the current cultural climate it is possible that the implementation of policies or protocols aimed at decreasing discrimination for marginalized students may also benefit White students. Previous research has shown the positive impact of

various diversity related factors on students' development of critical consciousness, or the critical analysis of social situations and the enactment of change, which may be another way to alter the relationship between discrimination and decreased academic achievement (Freire, 1993; Reveles & Galliher, under review). Diversity trainings and initiatives may also be helpful in educating White students about microaggressions and the impact that the microaggression process can have on a person to lessen the negative impacts of witnessing these events (Sue, 2010).

The implications of the current study for researchers is somewhat different than those of educators with the demonstration of the importance in investigating the impact of discriminatory events to all people regardless of their direct participation in the interaction. An experimental investigation of microinvalidations, specifically, by Tao, Owen, and Drinane (2017) found an increase in negative mood for those participants who witnessed an overt example of the microaggression, but did not find group differences among ethnicity. Further experimental studies are needed to determine the impact of racist/discriminatory interactions to White people with a focus on microaggressive interactions due to their pervasiveness in everyday life.

Ethical Issues

There were two instances when ethical issues arose in the present study, one having to do with a research assistant and the other with a participant. The study required the use of deception in order to examine authentic reactions that arise when witnessing a discriminatory interaction. As such, initial study protocol required a group debrief for participants at the end of the semester as a way to reduce chances that future participants would be informed of the study's true nature from those who had already participated. This proved to be distressing for

one research assistant who experienced difficulty acting as the experimenter and making discriminatory statements to the decoy. In a meeting with the lead researcher and the faculty mentor, the research assistant spoke to her fears of being seen as rude, mean, or racist by participants if she were to see them on campus. She also described her difficulty in delivering the experimental manipulation appropriately because of these fears. The research assistant ultimately left the project, but provided critical information about her experience that led to more explicit systems of support being put into place for research assistants for the remainder of the study.

The second incident that occurred was the response of a participant in one of the discrimination conditions who was very upset about witnessing the discriminatory behavior; it is unclear whether the participant was in the microaggression or blatant racism condition. This participant emailed the principal investigator expressing their concern about the way the experimenter treated the decoy and how deeply witnessing this interaction had impacted her. Specifically, she spoke of not being able to think about anything but the study for almost a week and discussing it with several close family members. Both of these incidents led to amendments of the debriefing procedure, which was moved to the end of each experiment session so participants were informed immediately about the use of deception; the USU IRB was informed of both incidents and approved the subsequent protocol amendment.

Limitations

One limitation to this study was the length and complexity of the experiment. Completion time for the experiment ranged from 1 hr 15 min to 1 hr 30 min with only one participant included in the experiment at a time. Due to the social nature of discriminatory interactions it was unclear what type of impact having multiple participants in the experiment

at the same time would have on the results (e.g., the increased likelihood that one may confront the aggressor). The experiment also required research assistants to be trained in the experimental protocol, which included the delivery of a discriminatory statement, administration of standardized assessments, heart rate and blood pressure assessment, as well as how to deal with the endorsement of suicidality on one of the study measures. There was also an issue with research assistant attrition because many of them sought out the position in order to fulfill a requirement of a semester long course, which they then vacated once the course was over. These factors impacted the data collection process making it difficult to consistently retain research assistants that directly impacted the ability to recruit participants.

Another limitation to this study is the religious and cultural context in which it was conducted. The cultural context of the university community is primarily conservative in its views and is predominantly White (82%) in its racial/ethnic make-up (Jones, 2017). The university demographic breakdown of religious affiliations consists predominantly of members of the LDS church (70%) making it difficult to speculate how generalizable these results are in university contexts that are more secular (Mayhew & Rockenbach, 2017).

A final limitation to the study is the length of data collection, which was impacted by several factors. One of these factors was the unanticipated complexity of enlisting research assistants, training them in the experimental protocol, and retaining them for multiple semesters. The lead researcher put time commitments in place for the research assistant role after phase one of data collection that required research assistants to fulfill their roles for at least two semesters, which limited the need for recruitment and training to about once per academic year and allowed data collection to begin more promptly at the beginning of the semesters. Another factor that contributed to the length of data collection was the recruitment

of research participants. The psychology department where this study took place is robust in its research and research experiences provided to its undergraduate students, which may have made such a lengthy in-person experimental design less desirable than a web-based research project to prospective participants. A final factor that contributed to the data collection period was a combination of programmatic requirements and health issues that the lead researcher faced. The lead researcher had to put the current study on hold in order to give her attention to these other matters, which also drew out the process. However, the length of data collection contributed to interesting unexpected results that may not have emerged if the collection had been done more swiftly.

Future Directions

In future iterations of this experimental paradigm there are several areas that could be strengthened and deepened to provide a more holistic understanding of the impacts of discrimination to bystanders. Future researchers should consider video recording of the experiment in its entirety to capture exchanges between the participant and decoy and non-verbal expressions made by participants. This would provide additional insight to participants' acknowledgement of discrimination objectively and immediately, rather than relying on participant self-report at the end of the study that could be impacted by social desirability. It may also be helpful to use more specific questions in the exit survey to better determine if the discriminatory event was detected as such. Researchers may also consider using other biological-based measures such as, skin conductance response, to better detect physiological distress.

There are also several factors future researchers should keep in mind regarding research team development. It is vital that researchers adequately train research assistants in

experimental procedures, especially the delivery of experimental manipulations, in order to maintain fidelity with the deceptive nature of the study. This type of training could be facilitated through use of vignettes, in-vivo role-plays, and/or watching a taped training session. In-person training is ideal as it allows for research assistants and decoys to meet, consistency in training, and a space to address questions/concerns. It would be helpful to ensure retention of research assistants by requiring a specific time commitment (e.g., one year) in order to avoid frequent time intensive training sessions and maintain consistent data collection.

Conclusion

Overall, exposure to a discriminatory interaction was found to negatively impact academic achievement and affect. Universities may benefit in strengthening discrimination policies in order to reduce the occurrence of discriminatory events even if eliminating them completely is not feasible. It is also clear that further investigations into the impact of these events to bystanders, and White people in particular, are needed to better understand the negative consequences that members of the majority may experience. Researchers may want to continue using experimental paradigms to aid their investigations in order to best examine relationships between discrimination and various outcomes, as well as to continue filling the gap in microaggression literature.

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APPENDICES

Appendix A

Research Assistant Training

Materials

- Blood Pressure Monitor
- WRAT-4 Protocols (can be copies)
- Stroop Protocol
- Heart Rate and Blood Pressure Tracking Sheets
- Stopwatch
- Tablets containing Qualtrics Linked Surveys or Paper Based Surveys

Procedures

Training began in the Culture and Mental Health Lab and started with introductions of the research team as a way to begin building rapport. The lead researcher then described the study objectives, the experimental timeline, and the different aspects of the experiment beginning with the location of experiment materials in the lab. Research assistants were acquainted with the filing cabinet that was used to store completed experiment protocols and unused study materials, including where to find the key for the cabinet. The lead researcher then demonstrated proper use of the blood pressure cuff, which encompassed where on the wrist to secure the cuff and the need for the participant to raise their wrist over their heart in order to get a proper reading. Research assistants were also shown where extra batteries were stored for the blood pressure cuffs. They were also shown how to access the online surveys using the tablets that the participants would be using. Research assistants were then allotted time to ask questions that had arisen during the experiment description.

After the basic elements of the experiment had been discussed the training was moved to the Psychology Community Clinic so that the lead researcher could do a run through of the experiment with the research assistants present. This portion of the training

began with the lead researcher showing the assistants where to find the clinic room schedule, the rooms that would typically be used for the experiment, the waiting room where they would meet the participants, and where to obtain a table in the event that the assigned room did not have one. Research assistants were also instructed to complete the preliminary blood pressure screening in one of their assigned clinic rooms in order to maintain the participant's privacy.

The lead researcher and one of the assistants then demonstrated how to conduct the experiment via a walk through of the procedure. Special focus was given to each research assistant practice the WRAT-4 administration and blood pressure assessment using the cuff. After the first dry run of the experiment the researchers returned to the Culture and Mental Health Lab to continue practicing the experimental manipulations. Research assistants who were designated as "experimenters" practiced delivering the microaggressive and blatantly racist comments while the "decoys" practiced receiving these statements and acting confused by what was said to them. The lead researcher also took time to process what it might feel like as an experimenter to deliver these statements and how it would feel for the decoys to receive them. The training was then wrapped up with more time for other questions to be answered.

Another experiment training was conducted, recorded on a video camera, and then uploaded to Youtube for research assistants who were not able to come to the in-person training. The video settings were set to private in order to maintain the fidelity of the experiment. Thus, the lead researcher must grant permission in order for the video to be viewed. The video is linked here: <https://youtu.be/1PE9VVkmgx0>

Appendix B

Experiment Script

Introduce yourself as the researcher to the participant and have them complete the informed consent/demographics survey in the waiting room. You will do the preliminary HR/BP measurement once you are in the clinic room (this is for privacy reasons), but do not read their results out loud.

Participant and Decoy enter with Experimenter present

Experimenter: Welcome. Thank you for participating in our experiment. Today you'll be asked to complete two brief math tests as well as a few surveys. The purpose of this experiment is to measure a variety of cognitive abilities by using different surveys, basic academic tests, and an attention and concentration test. We will measure your heart rate and blood pressure before and after the tests. Please be aware that you are participating in this study voluntarily. If at any point you no longer wish to participate, please do not hesitate to let me know. You are free to stop participating at any point. In order to indicate to us that you understand this information, we just had you complete a brief demographics survey that contained the informed consent. What questions do you have for me?

Experimenter waits for and responds to any possible questions by the participant.
Experimenter passes out and collects consent forms.

Experimenter: Now I will be taking your blood pressure and heart rate. Does anyone have any questions before we begin this portion of the experiment?

Experimenter: Okay. Next, I will give each of you a brief math test.

Turn to the Math Computation section in the Response Form and hand the form to the participant. Say,

This is a math test. Look at the problems printed on these two pages. (Point to both pages) I want to see how many of these problems you can work. Look at each problem carefully to see what you are supposed to do—add, subtract, multiply, or divide—and then put your answer either on or below the lines given. Start with the first problem in the top row (point) and do the problems in order across the page and then on to the next line. Move down the page row by row. When you finish this page, go on to the next page and work those problems.

The problems are easier at the beginning and then get harder. I want to see how many problems you can finish in 15 minutes. That's a lot of time so work carefully, but do not spend too much time on any one problem. If you do not know how to do a problem, skip it and go on to the next one. Be sure to write your answers in the simplest form. Check your work if you have finished all of the problems you know how to do before the time

is up. Raise your hand when you have finished. Begin timing. After exactly 15 minutes, say, **Stop work. Time is up.**

Experimenter hands out math tests and collects them when participant is finished.

Experimenter: Now we'll move on to the next step, which is taking a few short surveys. Please read the directions, enter your SONA number when prompted, complete the survey carefully, and do not skip any questions. It is important for our research purposes that you answer every question honestly and without skipping any questions or any sections. Select only one answer. If more than one answer applies for you, select only the best answer. I will be back to collect the surveys in about 10 minutes. If you have any questions during the survey, let me know and I'll answer the best that I can.

Experimenter administers Time 1 Survey.

EXPERIMENTAL CONDITIONS:

Experimenter re-enters the room after 8 minutes and retrieves the participant's work when he/she is done. The experimenter waits a few minutes for the decoy to finish, but the decoy does not. The experimenter then takes the blood pressure/heart rate of the participant and says to the decoy in a passive aggressive tone,

MICROAGGRESSION: *"You're pretty far back. Is English your first language?"*

DECOY: What? ^[L]_[SEP]

The experimenter will then turn to the participant and say, ^[L]_[SEP]

EXPERIMENTER: "You know what, let me find another room so you can finish your experiment while he/she finishes up here."

BLATANT RACISM: *"This is America, I wish you Mexicans would learn to read English."*

DECOY: What?

The experimenter will then turn to the participant and say,

EXPERIMENTER: "You know what, let me find another room so you can finish your experiment while he/she finishes up here."

If participant reacts to the micro/racism:

EXPERIMENTER: "I didn't mean it that way. Let's just finish this up."

Experimenter leaves room for 20 seconds and then returns. ^[L]_[SEP]Experimenter and/or decoy will make note of any reaction, verbal or non verbal, of the participant to this statement. ^[L]_[SEP]Experimenter and participant go into the next room to finish.

CONTROL CONDITION:

Experimenter re-enters the room after 8 minutes and retrieves the participant's work when he/she is done. The experimenter waits a few minutes for the decoy to finish, but the decoy does not. The experimenter then takes the blood pressure/heart rate of the participant.

EXPERIMENTER: “You know what, let me find another room so you can finish your experiment while he/she finishes up here.”

Experimenter walks participant to second room for the last half of the experiment.

Experimenter: Now I’m going to have you do a different kind of activity.^[SEP]

This page contains words printed in different colors of ink. I want you to name the color of the ink the words are printed in, ignoring the word that is printed for each item. For example, [point to the first item of the first column], this is the first item: what would you say? If the subject is correct, go on with the instructions.

If incorrect, say: **No. That is the word that is spelled there. I want you to name the color of the ink the word is printed in. Now, (pointing to the same item) what would you say to this item?**

That’s correct (point to second item). What would the response be to this item?^[SEP]**Good. You will do this page starting with the first column [pointing] and then going on to as many columns as you can. If you make a mistake, just correct it and go on. Are there any questions? (Instructions can be repeated or paraphrased as often as necessary.) Then begin.**

(Time for 45 seconds, then say:) **Stop. Circle the item you are on.** Participant completes the Stroop Test.

EXPERIMENTER: Okay, the next step is to complete the second part of the basic math test. This is the last test you’ll be doing for us today. The instructions are the same as from the first time and you will still have 15 minutes to complete it.

EXPERIMENTER: We are almost finished. I’m going to take your blood pressure and heart rate one more time and have you fill out a final survey.

Experimenter then gives participant credit sheet (gets SONA number for extra credit).

EXPERIMENTER: Thank you for participating in the research study. There are a few things about the study that we would like to tell you about. This study was about physiological and psychological reactions to stress, but the math task was not the stressor we were looking at specifically. If you were placed into one of the experimental groups there was an instance in which you heard either a microaggression or a blatantly racist comment to someone who appeared to be another participant, but was actually part of the study. We call those people “decoys.” The purpose of the study was to see how witnessing an act of discrimination would influence a bystander’s blood pressure, emotions, and academic achievement. We did not inform you of this purpose because knowing ahead of time would have impacted your answers and performance in the study.

We would now like to offer you the opportunity to talk about your experience, withdraw your participation if you have any concerns, and ask any questions that you may have about the

study. Please contact Alexandra Reveles at alexandra.k.reveles@gmail.com or Melanie Domenech Rodríguez at melanie.domenech@usu.edu with any questions, comments, or concerns. Thank you again for your participation and have a great day.

Appendix C

IRB Consent Form

Introduction/ Purpose Dr. Melanie Domenech Rodriguez in the Department of Psychology at Utah State University is conducting a research study to find out more about the physiological and psychological reactions of stress and academic achievement. You have been asked to take part because you are a Utah State University student who is at least 18 years of age. There will be approximately 150 total participants in this research. Alexandra Reveles, who is a graduate student in the psychology department, will assist in this research by helping to collect, input, and analyze the collected data.

Procedures If you agree to be in this research study, you will be asked to allow the measurement of your blood pressure and heart rate before and during the study, to complete standardized cognitive and academic assessments, and to complete a self-report survey during and after the study. In order to fully answer the research questions, participation in each part of the study will be required. The length of participation is estimated to be between and hour and fifteen minutes and an hour and thirty minutes. There will be a total of 5 separate assessments, but all of these assessments will be completed in the one-time participation visit.

Risks Participation in this research study may involve some added risks or discomforts. These include potential slight physical discomfort during blood pressure and heart rate measurement and potential slight psychological fatigue from the engagement with the assessments. There is a small risk of the loss of confidentiality but we will take the necessary steps to reduce this risk. Due to the experimental nature of this study there could be an occurrence of unforeseen risks.

Benefits There are no anticipated direct benefits to participants from this study. However, there are anticipated indirect benefits to participants in the future from the information collected of how stressful situations impact academic achievement.

Explanation & offer to answer questions The student researcher has explained this research study to you and answered your questions. If you have other questions or research-related problems, you may reach (PI) Dr. Melanie Domenech Rodriguez at (435) 797-3059 or Melanie.domenech@usu.edu

Payment/Compensation You will receive extra credit, if applicable, for your participation in this study. Extra credit will be based on enrollment in an introductory psychology course and the professor's designation of extra credit availability.

Voluntary nature of participation and right to withdraw without consequence Participation in research is entirely voluntary. You may refuse to participate or withdraw at any time without consequence or loss of benefits. IF you no longer wish to participate in the study you may let the student researcher know and they will allow you to leave the study. You may be withdrawn from this study without your consent by the investigator. The

circumstances for withdrawal of the study include incompleteness of assessments and self-reports or lack of cooperation with the study requirements.

Confidentiality Research records will be kept confidential, consistent with federal and state regulations. Only the investigator and student researchers will have access to the data which will be kept in a locked file cabinet and/or on a password protected computer in a locked room. To protect your privacy, personal, identifiable information will be removed from study documents and replaced with a study identifier. Identifying information will be stored separately from data and will be kept. Data will be kept for 5 years.

IRB Approval Statement The Institutional Review Board for the protection of human participants at Utah State University has approved this research study. If you have any questions or concerns about your rights or a research-related injury and would like to contact someone other than the research team, you may contact the IRB Administrator at (435) 797-0567 or email irb@usu.edu to obtain information or to offer input.

Copy of consent You have been given two copies of this Informed Consent. Please sign both copies and keep one copy for your files.

Investigator Statement “I certify that the research study has been explained to the individual, by me or my research staff, and that the individual understands the nature and purpose, the possible risks and benefits associated with taking part in this research study. Any questions that have been raised have been answered.”

Signature of Researcher(s)

Melanie Domenech Rodriguez, Ph.D.
Principal Investigator
(435) 797-3059
Melanie.domenech@usu.edu

Alexandra Reveles, B.A.
Student Researcher
(435) 797-8282
Alexandra.reveles@aggiemail.usu.edu

Signature of Participant By signing below, I agree to participate.

Participant's signature

Date

Appendix D

Experiment Feedback (Exit Survey)

1. How comfortable were you with taking the math test portions of the experiment?

| | | | | |
|---------------------|-------------|---|---------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 |
| Very comfortable | Comfortable | Neither comfortable nor uncomfortable | Uncomfortable | Very uncomfortable |

2. How comfortable were you completing the survey portions of the experiment?

| | | | | |
|---------------------|-------------|---|---------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 |
| Very comfortable | Comfortable | Neither comfortable nor uncomfortable | Uncomfortable | Very uncomfortable |

3. How can we improve the experiment for future participants?

4. What was your overall impression of the experiment today?

5. What were your overall impressions of the experimenter?

Appendix E

Heart Rate and Blood Pressure Tracking Sheet

[illegible]

CURRICULUM VITAE

Alexandra K. Reveles, M.S.

500 Snell Hall, 2150 SW Jefferson Way, Corvallis, OR, 97331

(541) 737-2131

alexandra.k.reveles@gmail.com

*Pronouns: she, her, hers

EDUCATION

- | | |
|-------|---|
| Ph.D. | Utah State University, Clinical/Counseling/School Psychology (APA Approved) |
| 2019 | <p>Dissertation: <i>Experience of Microaggressions: White Bystanders' Physiological and Psychological Reactions</i> (April 2018)</p> <p>Faculty advisor: Melanie Domenech Rodríguez, Ph.D.</p> |
| M.S. | Utah State University, Clinical/Counseling/School Psychology (APA Approved) |
| 2017 | <p>Thesis: <i>Diversity Related Experiences among College Students in the Promotion of Social Justice Orientation, Multicultural Openness, and Community Involvement</i></p> <p>Faculty advisor: Renée V. Galliher, Ph.D.</p> |
| B.A. | Marquette University, Major: Psychology |
| 2013 | <p>McNair Scholar: <i>Gender Differences in Perceived Discrimination as a Predictor of Depressive Symptoms among Latinos</i></p> <p>Faculty advisor: Lucas Torres, Ph.D.</p> |

CLINICAL EXPERIENCE

SERVICES PROVISION

- | | |
|-------------------|--|
| 08/2018 – Present | <p><i>Doctoral Intern</i>, Counseling and Psychological Services, Oregon State University, Corvallis, OR. Supervisor: Ozge Akcali, Ph.D.</p> <p>Area of Emphasis: Eating Disorders and Body Image</p> <p>Responsibilities: Conduct individual, group, and crisis therapy with university students and complete corresponding paperwork; Attend consultation and staff meetings, seminars, professional</p> |
|-------------------|--|

development presentations and workshops; Engage in campus outreach.

- 09/2016 – 07/2018 *Doctoral Clinical Assistant, Avalon Hills Eating Disorder Specialists, Logan, UT. Supervisor: Tera Lensegrav-Benson, Ph.D.*
Responsibilities: Conduct individual, group, and psychoeducational therapy with female adolescent and adult populations and complete corresponding paperwork; Attend treatment team meetings and clinical rounds.
- 05/2015 - 06/2016 *Mental Health Consultant, Bear River Head Start, Logan, UT. Supervisor: Melanie Domenech Rodríguez, Ph.D.*
Responsibilities: Conduct individual, couples, and family therapy with a community based population and complete corresponding paperwork; Conduct classroom observations; Create behavioral plans and in-service training presentations.
- 08/2015 - 05/2016 *Practicum Student, Counseling and Psychological Services, Utah State University. Supervisors: Amy Kleiner, Ph.D., David Bush, Ph.D., and Chelsey Ritner, M.S.*
Responsibilities: Conduct individual and group therapy for university students and complete corresponding paperwork; Conduct outreach presentations for the university community; Engage in readings relevant to client needs and create change model in-line with identified theoretical orientation.
- 08/2014 - 05/2015 *Practicum Student, Integrated Practicum with Adults, Adolescents, and Children, Psychology Community Clinic, Utah State University. Supervisors: Susan Crowley, Ph.D., Julie Pelletier, Ph.D., and Hollie Archibald, Ph.D.*
Responsibilities: Conduct individual and parent training therapy and complete corresponding paperwork; Conduct psychological assessments and write corresponding reports; Attend group supervision and individual supervision meetings

SUPERVISION / COACHING

- 03/2018 *Coach, Safe Passages for U, Utah State University*
Responsibilities: Provide in-the-moment feedback to training facilitators and written feedback of the intervention delivery.

03/2017 *Coach*, Advancing Civility, Logan, UT.
 Responsibilities: Provide in-the-moment training and feedback to training facilitators.

RESEARCH EXPERIENCE

9/2011 - 05/2013 *Research Assistant*, Mental Health Disparities Lab, Marquette University
 Supervisor: Lucas Torres, Ph.D.
 Responsibilities: Collect and enter data into the program SPSS; Perform statistical analyses (e.g., T-tests, hierarchical regressions); Conduct qualitative research, including coding (e.g., modified grounded theory); Present research findings in both paper and poster presentations at conferences; Conduct individual research project in fulfillment of the Ronald E. McNair Scholars program.

9/2012 - 05/2013 *Research Assistant*, Marquette Autism Project, Marquette University
 Supervisor: Amy Van Hecke, Ph.D.
 Responsibilities: Assist with EEG testing and entering EEG data into database; Organize registries and databases of participant data; Perform intakes on participants of the Young Adult PEERS (YA PEERS) group; Co-lead YA PEERS group

CONFERENCE PRESENTATIONS

Reveles, A. K., Minero, L. P., & Caso, T. J. (2018, October). *Fostering inclusivity: A potential name change for NLPA*. Roundtable presented at the biennial conference of the National Latina/o Psychological Association. La Jolla, CA.

Domenech Rodríguez, M. M., **Reveles, A. K.,** & Litson, K. (2018, October). *Development of a measure to assess cultural competence in the general population*. Poster presented at the biennial conference of the National Latina/o Psychological Association. La Jolla, CA.

Reveles, A. K. & Lensegrav-Benson, T. (2018, March). *Chasing the likes: Self image, body comparisons, & eating disorders*. Lightning round presented at the annual meeting of the Generations Conference. Salt Lake City, UT.

- Reveles, A. K., Blume, A. K., & Galliher, R.** (2017, August). *Links among diversity related college experiences and multicultural competence*. Poster presented at the 125th Annual Convention of the American Psychological Association. Washington, D.C.
- Blume, A. K., **Reveles, A. K., & Galliher, R.** (2017, August). *Moderated mediations of associations between diversity experiences and school belonging*. Poster presented at the 125th Annual Convention of the American Psychological Association. Washington, D.C.
- Reveles, A.K. & Galliher, R.** (2016, October). *Diversity experiences and social justice orientation as predictors of school belonging in Latinx college students*. Paper presented at the biennial meeting of the National Latino/a Psychological Association. Orland, FL.
- Reveles, A., Papa, L., Patterson, C., Domenech Rodríguez, M. M.** (2016, October). *Shifts in undergraduate multicultural competence: Impact of a multicultural psychology course*. Poster presented at the biennial meeting of the National Latino/a Psychological Association. Orland, FL.
- Reveles, A., Blume, A., & Galliher, R.** (2016, March). *Diversity related experiences among college students and ethnic differences in the awareness of racism*. Poster presented at the biennial meeting of the Society for Research on Adolescence. Baltimore, MD.
- Domenech Rodriguez, M., **Reveles, A., Jones, D., & Papa, L.** (2014, April). *Cultural competence shifts in the undergraduate classroom: Evaluating growth in a Multicultural Psychology course*. Paper presented at the annual conference of the Rocky Mountain Psychological Association. Salt Lake City, UT.
- Reveles, A. & Torres, L.** (2013, May). *A qualitative investigation of Latino cultural strengths as protective factors*. Paper presented at the annual conference of the Midwest Psychological Association, Chicago, IL.
- Reveles, A.** (2013, April). *Gender differences in perceived discrimination as a predictor of depressive symptoms among Latinos*. Paper presented at the 27th National Conference on Undergraduate Research, University of Wisconsin, La Crosse, WI.
- Ayala, V., **Reveles, A., Popovich, J., DeAngelis, D., & Torres, L.** (2012, May). *Coping strategies of Latinos: Nativity and gender differences*. Poster presented at the annual conference of the Midwest Psychological Association, Chicago, IL.
- Popovich, J., DeAngelis, D., Ayala, V., **Reveles, A., & Torres, L.** (2012, May). *Latino coping styles across educational levels: Denial vs. active coping*. Poster presented at the annual conference of the Midwest Psychological Association, Chicago, IL.

PEER REVIEWED PUBLICATIONS

Torres, L., **Reveles, A. K.**, Mata-Greve, F., Schwartz, S., & Domenech Rodríguez, M. M. (under review). Ethnic microaggression and outgroup witnesses: An experimental study. *Journal of Counseling Psychology*.

Reveles, A. K., & Galliher, R. (under review). Diversity-related experiences among college students in the promotion of critical consciousness. *Journal of Diversity in Higher Education*.

Patterson, C. A., Papa, L. A., **Reveles, A. K.**, Domenech Rodríguez, M. M. (2018). Undergraduate student change in cultural competence: Impact of a multicultural psychology course. *Scholarship of Teaching and Learning in Psychology*. 4, 81-92. <http://dx.doi.org/10.1037/stl0000108>

NON-PEER REVIEWED PUBLICATIONS

Ong, C. W., Papa, L. A., **Reveles, A. K.**, Smith, B. M., & Domenech Rodríguez, M. M. (2018). *Safe Passages for U: Participant's Manual*. Logan, UT: Utah State University. Retrieved from: <https://osf.io/d5bz7/>

Ong, C. W., Papa, L. A., **Reveles, A. K.**, Smith, B. M., & Domenech Rodríguez, M. M. (2018). *Safe Passages for U: Training Manual*. Logan, UT: Utah State University. Retrieved from: <https://osf.io/45kb6/>, doi: 10.17605/OSF.IO/45KB6

Reveles, A. K. (2017, December 5). Body image flexibility [Web log post]. Retrieved from <http://avalonhills.org/blog/2017/12/body-image-flexibility>

Reveles, A. K. (2017, July 11). Body image: The messages we receive [Web log post]. Retrieved from <http://avalonhills.org/blog/2017/07/body-image-messages-we-receive>

Domenech Rodríguez, M. M., **Reveles, A. K.**, & Corralejo, S. M. (2017). *Advancing civility in middle schools*. Utah State University: Logan, UT. Retrieved from <https://osf.io/mcn89/>, doi: 10.17605/OSF.IO/MCN89

Domenech Rodríguez, M. M., Papa, L. A., **Reveles, A. K.**, & Corralejo, S. M. (2016). *Advancing civility in elementary schools*. Utah State University: Logan, UT. Retrieved from <https://osf.io/z7ua8/>, doi: 10.17605/OSF.IO/Z7UA8

López-Arenas, A., Guerra, S., Minchala, V., Valenzuela, J., Hernández, H., **Reveles, A. K.**, Estevis, E., Heredia, D., & Field L.D. (2014). Latina/o pre-doctoral internship directory. National Latina/o Psychological Association.

TEACHING EXPERIENCE

INSTRUCTOR

- 05/2018 – 08/2018 *Instructor, Multicultural Psychology, Utah State University*
Responsibilities: Maintain an up-to-date course syllabus, assignments, exams, and grading rubrics; Grade course assignments and exams; Hold office hours for student questions/concerns.
- 05/2016 - 06/2016 *Instructor, Abnormal Psychology, Utah State University*
Responsibilities: Create course syllabus, lectures, assignments, exams, and grading rubrics; Present course lectures and proctor exams; Grade course assignments and exams; Hold office hours for student questions/concerns.
- 01/2015 - 05/2015 *Instructor, Developmental Psychology: Adolescence, Utah State University*
Responsibilities: Create course syllabus, lectures, assignments, exams, and grading rubrics; Present course lectures and proctor exams; Grade course assignments and exams; Hold office hours for student questions/concerns.

TEACHING ASSISTANT

- 08/2017-05/2018 *Teaching Assistant, Multicultural Psychology, Utah State University*
Instructors: Melanie Domenech Rodríguez, Ph.D. and Lester Papa, M.S.
Responsibilities: Moderate class discussions; Grade assignments and enter grades into grade book; Be available for student questions/concerns.
- 08/2014 - 12/2014 *Teaching Assistant, Multicultural Psychology, Utah State University*
Instructor: Melanie Domenech Rodríguez, Ph.D.
Responsibilities: Attend class once a week and moderate class discussion; Create and present guest lectures; Create quizzes, class activities; Grade assignments and enter grades into grade book; Hold office hours for student questions/concerns.
- 01/2014 - 04/2014 *Teaching Assistant, Cognitive Psychology, Utah State University*

Instructor: Salif Mahamane, M.S.

Responsibilities: Teach lab sections three times a week; Proctor and grade exams, grade lab assignments, and enter grades into grade book; Hold office hours for student questions/concerns.

08/2013 - 12/2013 *Teaching Assistant, Multicultural Psychology, Utah State University*

Instructor: Melanie Domenech Rodríguez, Ph.D.

Responsibilities: Attend class once a week and moderate class discussion; Create and present guest lectures; Create quizzes, class activities; Hold office hours for student questions/concerns.

GUEST LECTURES

06/2016 & 03/2016 **Reveles, A. K.** *Microaggressions*. Guest lecture for Social Problems (SOC 1020). Curtis Smith, M.A. Utah State University, Logan, UT.

03/2016 & 10/2015 **Reveles, A. K.** *Ethnic Labels*. Guest lecture for Multicultural Psychology (PSY 4240). Melissa Tehee, Ph.D., J.D. Utah State University, Logan, UT.

10/2015 Papa, L., & **Reveles, A. K.** *A Multicultural Competence Primer*. Guest lecture for Introduction to the Psychology Major (PSY 2010). Carrie Madden, M.S., Utah State University, Logan, UT.

08/2015 Patterson, C., Papa, L., & **Reveles, A. K.** *Culturally Competent Supervision*. Webinar, Utah Psychological Association.

06/2015 **Reveles, A. K.** *Sexual Dysfunctions, Paraphilic Disorders, and Gender Dysphoria*. Guest lecture for Abnormal Psychology (PSY 3210). Brooke Smith, M.S., Utah State University, Logan, UT.

06/2015 **Reveles, A. K.** *Culture Bound Syndromes*. Guest lecture for Abnormal Psychology (PSY 3210). Brooke Smith, M.S., Utah State University, Logan, UT.

PROFESSIONAL ACTIVITIES

09/2017 – Present *Mentor, APAGS-CSOGD LGBT Graduate Student Mentoring Program.*

03/2016 *Student Panelist, A Day, Utah State University*

Responsibilities: Share experience as a graduate student in the Combined Clinical, Counseling, and School Psychology program

09/2015 *Student Panelist*, Families and Cultural Diversity (FCHD 3210), Utah State University
Responsibilities: Share experience as a Latinx woman and answer student questions about cultural differences

05/2015 - 08/2016 *Student Representative*, Combined Program in Psychology, Utah State University
Responsibilities: Act as a liaison between program students and faculty members; Attend monthly departmental and program meetings, program retreat meetings (i.e., meetings to update and revise program components), and contribute ideas to changes; Conduct student meetings to discuss proposed programmatic changes, student concerns (e.g., mentorship issues, discriminatory experiences), and program requirements (e.g., available applied training sites)

09/2014 – 05/2017 *Graduate Student Representative*, (September 2014-present). Allies Steering Committee, Utah State University
Responsibilities: Attend regular meetings to discuss changes and updates to the Allies on Campus training seminar; Co-lead Allies on Campus training seminars at least once per semester; Contribute to website updates (e.g., LGBTQ+ affirming resources in the community) and social event planning

10/2014 - 05/2016 *Committee Member*, Utah Psychological Association Diversity Committee
Responsibilities: Attend regular meetings; Contribute to development of UPA climate survey to assess member needs

TRAININGS PROVIDED

01/24/2018 **Reveles, A. K.**, Ong, C. W., & Litson, K., *Safe Passages 4 U*, Skills Workshop, Utah State University, Logan, UT.

03/29/2017 Corralejo, S., Litson, K., Rosario-Colon, J., & **Reveles, A. K.**, *Advancing Civility*, Community Outreach, Bear River Charter School, Logan, UT.

Allies on Campus Trainings, Utah State University, Logan, UT.

2017 dates: March 1

2016 dates: January 7, February 24, March 21, and September 26,

2015 dates: January 20, February 20, April 2, September 24, and October 15

- 04/8/2016 **Reveles, A. K.** *Stress, Burnout, and Self-Care*. Virtual In-Service Training. Bear River Head Start, Logan, UT.
- 02/19/2016 **Reveles, A. K.** *Domestic Violence and Child Abuse*. In-Service Training. Bear River Head Start, Logan, UT.
- 11/20/2015 Papa, L., & **Reveles, A. K.** *Work/Family Balance*. In-Service Training. Bear River Head Start, Logan, UT.
- 09/4/2015 Papa, L., & **Reveles, A. K.** *Empowering Parents*. In- Service Training. Bear River Head Start, Logan, UT.

TRAININGS RECEIVED

- 03/2019 Intercultural Empathy and Cultural Intelligence (CQ) Workshop by Dr. Cheryl Forster, Portland, OR. (2-day training)
- 01/2019 Trauma Conference: The Body Keeps the Score - Trauma Healing with Bessel van der Kolk, MD, Oregon State University, Corvallis, OR. (2-day training)
- 12/2018 Social Justice Education Initiative Tier 1, Sessions 1 and 2, Oregon State University, Corvallis, OR.
- 08/2018 Intercultural Frameworks for Increased Effectiveness by Dr. Cheryl Forster, Portland State University, Portland, OR. (1-day training)
- 09/2015 - 05/2016 *Certificate of Completion*, Parent Management Training-Oregon Model Blended Learning Course (PSY 6810), Utah State University, Logan, UT.
- 09/2015 - Present *Mentee*, APAGS-CSOGD LGBT Graduate Student Mentoring Program.
- 09/2014 ACT Workshop, Utah State University, Logan, UT. (2-day training)
- 02/2014 ACT Bootcamp, Reno, Nevada. (3-day training)

| | |
|---------|--|
| 01/2014 | Allies on Campus Facilitator Training, Utah State University, Logan, UT. |
| 11/2013 | Allies on Campus, Utah State University, Logan, UT. |
| 10/2013 | Lee Mun Wah Seminars, Utah State University, Logan, UT. |

PROFESSIONAL MEMBERSHIPS

| | |
|----------------|--|
| 2013 - Present | American Psychological Association (graduate student affiliate) APA Division 45 |
| 2012 - Present | National Latinx Psychological Association (graduate student affiliate) |
| 2014 - 2016 | Utah Psychological Association (graduate student affiliate) |
| 2012 Cohort | Ronald E. McNair Scholars Post Baccalaureate Achievement Program |
| 2011 - Present | Psi Chi, International Honor Society in Psychology, Inducted 2011 |

AWARDS AND HONORS

| | |
|-------------------|--|
| 08/2017 - 05/2018 | Seely-Hinckley Scholarship (tuition and student fees), Utah State University, Logan, UT. |
| 08/2017 - 05/2018 | Walter R. Borg Scholarship: Applied Practice and Research Award (\$3,500), Utah State University, Logan, UT. |
| 10/2016 | National Latino/a Psychological Association (NLPA) Student Travel Scholarship (\$240), NLPA Biennial Conference 2016. |
| 08/2016 - 05/2017 | Fredrick Q. Lawson Fellowship (\$3,000), Utah State University, Logan, UT. |
| 08/2015 - 05/2016 | Carolyn Barcus Diversity Scholarship (\$1,000), Utah State University, Logan, UT. |
| 03/2013 | Richard F. Nash Memorial Award (\$100), Marquette University, Milwaukee, WI. |
| 12/2012 | Dean's List, Marquette University, Milwaukee, WI. |
| 08/2009 - 05/2013 | Marquette University Ignatius/Magis Scholarship (\$28,000/yr.; awarded for academic excellence, community service, and leadership), Milwaukee, WI. |